Abstract

GRUBER, KENNETH JAY. When Women Talk, Who's Listening? The Effects of Sex of the Speaker on Listening Comprehension. (1976)
Directed by: Dr. Jacquelyn Gaebelein. Pp. 122

Common to the belief that there are differences in abilities between men and women is the likelihood that these beliefs influence the perception and expectation of behavior appropriate to each sex. The persistence of sex-role stereotypes raises the question as to what extent these perceptions actually influence the evaluation of behavior.

The purpose of this study was to examine the effect of sex of the speaker on listening comprehension in a public speaking situation. Sixty male and sixty female subjects viewed either a male or female speaker presenting a talk on either a masculine (chess), feminine (interior decorating), or neutral (snow skiing) topic.

It was predicted that when a male speaks, he will be listened to more closely and more attentively than when a female speaks <u>even</u> if they are saying the same thing (i.e., the same exact presentation). Two males and two females gave identical presentations on each of the topics to assess the effect of sex of the speaker on audience comprehension of what the speaker was saying. It was predicted that the sex bias of the topic would not make a difference, that male speakers would still be listened to more intently even for

the feminine topic. It was also predicted that a male speaker would be listened to more closely by both males and females, and that both males and females would not listen very well to a female speaker. One last prediction was that a male speaker would be rated as a more effective speaker, and that a presentation would be rated as more informative than if presented by a female speaker.

The results support the hypothesis that when a male speaks he's listened to more carefully than when a female speaks (first prediction) and that the sex bias of the topic did not make any difference; males were still recalled better than females (second prediction). Also the above relationships were true for male and female subjects; both listened better to the male speakers (third prediction).

The rating of informativeness showed no difference for sex of the speaker. The effectiveness rating of the speaker showed that both male and female subjects rated the male speaker equally effective; but that while male subjects rated the female speakers significantly more effective than they did male speakers, female subjects rated male and female speakers equally.

WHEN WOMEN TALK WHO'S LISTENING?

THE EFFECTS OF SEX OF THE SPEAKER

ON LISTENING COMPREHENSION

by

Kenneth Jay Gruber

A Thesis Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Greensboro
1976

Approved by

Jacqueline D. Laboccetta
Thesis Adviser

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Thesis Adviser Jacquelyn D. Sabelein

Committee Members Michael Wiese

G Evelyn LeSure

6-16-76

Date of Acceptance by Committee

ACKNOWLEDGEMENTS

I wish to gratefully acknowledge the aid and guidance of my chairperson, Dr. Jacquelyn Gaebelein, and my committee members, Drs. Michael Weiner and Evelyn LeSure, for their suggestions and help in completing this thesis.

I would also like to thank Joanne Ferguson, Zella Stiles, and Betty Everhart for all their patience and help in the preparation of this manuscript.

In addition, I would like to thank Susan Corriher, Roberta Sadler, David Sheslow, and Vernon Odom, who graciously agreed to be the speakers in the experiment. Also, I would like to thank George Pawl for his technical assistance in videotaping the presentations.

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Chapter 1

Introduction

A prevalent finding in the literature is that men and women are not evaluated equally (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968; Elman, Press, & Rosenkrantz, 1970), even when they produce objectively the same results (Goldberg, 1968; Pheterson, Kiesler, & Goldberg, 1971; Mischel, 1974; Starer & Denmark, 1974). Sex role stereotypes appear quite consistently (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968; Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Kaplan & Goldman, 1973; Gordon & Hall, 1974), and these traditional beliefs of appropriate sex role behavior are maintained by both men and women. Typical of the results are that men are often considered to be more intelligent, sincere, and competent than are women (Spence & Helmreich, 1972).

The implications of this differential evaluation are far reaching; for not only does the tendency to evaluate ability and achievement on the basis of sex remain, but female-related activities continue to be viewed negatively.

Quite disturbing is the fact that many women also display such differential evaluation. In support of this notion is evidence to suggest that women tend to devalue work done by other women, particularly when it is being compared to work done by men or is related to a traditionally "male" dominated area (Goldberg, 1968; Pheterson, Kiesler, & Goldberg, 1971; Starer & Denmark, 1974; Mischel, 1974). Horner (1968, 1972) suggested that women fear the prospect of competing successfully with men in masculine activities, which she reasons is due to the dominant societal stereotype that views competition, independence, and intellectual achievement as qualities basically inconsistent with femininity.

An additional implication of the differential evaluation of men and women concerns the effectiveness of female performance as compared to male performance. For example, although several studies (e.g., Wexley & Hunt, 1974; Day & Stogdill, 1972) have not found real differences in leadership behavior of men and women, differences are perceived to exist. Even the attribution of successful performance appears to be influenced differentially depending on the sex of the actor. Deaux and Emswiller (1974) found that on a perceptual task in which males were expected to do better, successful performance by a female was more likely to be attributed to luck than to skill. For males, successful performance was seen more attributable to skill. In contrast, on a "feminine" task, no differences in attributing success to either luck

or skill was made to either a male or female stimulus person by either male or female subjects. Furthermore, pretesting of the masculine and feminine tasks had shown them to be rated equivalently, yet both male and female subjects perceived the performance on the masculine task superior to that on the feminine task.

Similar results were reported by Feldman-Summers and Kiesler (1974). Using a problem-solving task, they had male and female subjects evaluate a male or female stimulus person achieving relative degrees of success in problem solving. They found that although the successful female stimulus person was seen as more motivated than her male counterpart, both male and female subjects expected males to perform better at problem solving than females. What this and the Deaux and Emswiller studies suggest is that males are expected to be more successful than women and that women do not expect to be as successful as men in situations or areas that are "male" oriented. In addition, Feldman-Summers and Kiesler (1974) report that there is some evidence that even in traditionally "feminine" oriented fields, men are expected to be more successful and competent than women.

A possible consequence of these perceived differences is that if women are perceived as being less competent, this might influence their ability to exert influence and impair their credibility. As it appears, men see themselves as more competent, intelligent, assertive, success-oriented,

interesting, and as a better source of information than women. It may be that, as Hawley (1971, 1972) suggests, women are influenced by what men think of them, and that women think of themselves in a similar manner. It is well known, for example, that men are considered better problem solvers than women, and this may account for why men are frequently sought out for consultation by both men and women. Greenberger and Sorensen (1970), for example, reported that among junior high school faculty the sex of the individual had an overwhelmingly large influence upon whom individuals chose to consult, respect, and like. Men and women faculty members chose men more frequently for consultation and men chose other men more often for respect. The results are particularly intriguing when it is noted that women faculty members were not viewed as being less competent in their teaching skills than the men. The differences in preferred sex of consultant suggests a difference in verbal and communicative ability between men and men, men and women, and women and women. Several other studies (Scheidel, 1963; Rossiter, 1972; Globig & Touhey, 1971) also suggest such a possibility.

Scheidel (1963) found that women were significantly more persuasible than men. He pretested their attitudes and then had male and female college students listen to an 11-minute persuasive speech opposing future expansion of power of the federal government into areas of health and education.

He then tested their attitudes toward the speech, and by appropriate structuring of his measurement scale, was able to separate general, nonrelevant specific, and relevant specific items. Male subjects were influenced significantly more by relevant items and significantly less by the general items. While female subjects were also significantly influenced by the relevant specific items, they were also influenced by the general and nonrelevant specific items. Though the female subjects heard the important points as suggested by their being influenced significantly by relevant specific items, they were also attending to or being distracted by nonrelevant points. Another explanation, suggested by Scheidel, is that either women are more easily persuaded because they don't listen intently enough to separate the relevant material, or that they are more likely to generalize from the persuasive parts of a communication and confuse the total message. In either case, the added finding that women retained significantly less of the speech content than men, except in the subcontent areas of education, points to a possible problem in effective comprehension. It was only with the content dealing with an area of feminine "interest and competence" that women were able to consistently recall information accurately. Women may selectively tune out content of noninterest, and may not only be influenced by the sex-appropriateness of the topic, but by the sex of the speaker as well.

Rossiter (1972) investigated the effect of the sex of the speaker on listener comprehension and found no differences in overall listening scores for males and females. Unfortunately, he failed to control for possible sex bias of the topics confounded with the sex of the speaker. He had subjects listen to 14 short (1½ minute) informative messages presented by either a male or female on a wide variety of topics ranging from yoga to Newton's Principia Mathematica to diseases of cats and dogs. He also had 14 different speakers; this, too, may have removed any effect that could have been attributed to the sex of the speaker. (It may have also been the case that since the speakers were all communications students, they presented in a similar style or voice that may have artificially enhanced or decreased listener comprehension.)

Globig and Touhey in a study in 1971 examined the effects of sex of the speaker and affective mood on lecture content retention. Forty-seven male and forty-six female introductory psychology students heard a 1700-word encyclopedia entry dealing with the history of the country of Zanzibar. Subjects heard either a male or female speaker portraying one of three moods: anger, depression, or elation. Though the affective factor was nonsignificant, the experimenters found that males recalled significantly more than females; there was also a trend for higher recall scores to be associated with male speakers than with female speakers.

Statement of the Problem

In general, evidence from the literature supports the notion that men and women are not evaluated equally (for a more extensive discussion of the literature, see Appendix A), even when they produce objectively identical results (i.e., same painting, same article). In addition, the research to date suggests that women, as well as men, hold these less favorable views of women; and the effect of this differential evaluation may have counterproductive or even detrimental effects on the perception of women, one of which may be their effectiveness as communicators. The sex differences in listening comprehension, as reported by Scheidel (1963) and Globig and Touhey (1971), and the view that women are less competent than men suggest that the perceptions of a speaker and the speech may be influenced by the sex of the speaker, the listener, or both. The devaluation of women's efforts by other women and the general negative attitudes of men towards the capabilities of women would suggest that men are perceived as better speakers than women.

The purpose of the present study is to examine this possibility. Specifically, the hypothesis that women do not listen to other women as well as they listen to men was tested. It was hypothesized that when men talk, they are listened to more attentively than women, even if they are saying the same thing. In addition, the sex appropriateness of the content was not expected to influence listening

comprehension. It was predicted that although females speaking on a "feminine" topic may be listened to more closely than if the topic were a "masculine" one, male speakers would be listened to more closely regardless of the gender of the topic.

Hypotheses

In the present study male and female subjects listened to either a male or female speaker talk on either a masculine, feminine, or neutral topic. Subjects were asked to rate the effectiveness of the speaker, information content of the speech and to recall the content of the speech.

The major hypotheses tested were:

(1) Male speakers would be listened to more attentively than female speakers and subsequent recall of what they said would include more information and be more accurate than recall of the female speakers. There would be no interaction of sex of subjects with sex of the speakers. Recall of content would be greater and more accurate for male speakers by both male and female subjects.

(2) Male speakers would be rated as more effective and their talks more informative than that of female speakers.

(3) Sex bias of the topics would not significantly affect the above relations, consequently male speakers would be recalled more accurately even if the content of the topic is "feminine."

Chapter 2

Method

Subjects

One hundred and twenty-eight graduate and undergraduate college students[1] volunteered to take part in the study. Subjects were recruited by the experimenter and asked to take part in the experimenter's master's thesis experiment.

Apparatus

Presentations were videotaped in an auditorium using a SONY black and white studio camera model ACV-4000A and a SONY ECM-16 condenser microphone. Recording was done on a SONY tape recorder - Color Videocorder model AV 8650 with SONY videotape V-32. The talks were presented on a Concord television monitor model MR-20 and a Panasonic Tape-a-vision tape recorder model NU-3020.

Materials

Determination of the topic. Topics were generated from a list of 29 skill activities that Schneider (1972) had

found to be characteristically identified as being masculine, feminine, or neutral. Using his original list, 40 male and 35 female graduate and undergraduate students attending summer classes at UNC-G and an additional group of 50 males and females[2] were asked to rate the skill activities on three different 5-point differential scales. The students rated each item as to whether they perceived the skill activity to be masculine, feminine, or neutral; their knowledge of the skill activity, and how interested they were in learning more about it. From this information, topics that were perceived by both males and females to have largely masculine, feminine, or neutral content bias were identified. Also, the information from the knowledge and interest questions helped to select topics that were of at least moderate interest and that generally people knew little about. For each gender category, one topic meeting the criteria was selected (see Appendix B); for each, three two-page presentations (presentation time five minutes) were selected from popular sources[3] and were then edited into script form for presentation.[4] The topics chosen for presentation were chess (masculine), snow-skiing (neutral) and interior decorating (feminine). A panel of six graduate student judges (three males and three females) evaluated the scripts and rated them on clarity, content, and evidence of bias towards or against sex. Selection and editing of the final topic presentations (one presentation per topic) was based on the panel's evaluations (see Appendix C).

Selection of the speakers. To control for possible speaker differences and to increase generality of results, four speakers, two males and two females, presented the speeches. The speakers were selected on the basis of their appearance and speaking voices. In selecting the speakers, care was taken to select males and females who, except for sex, were as equal as possible in both physical appearance and speaking voice. Since the attraction literature suggests that there are possible biases against individuals who are either very attractive or unattractive (e.g., Dion, Berschied & Walster, 1972), the speakers selected were of moderate attractiveness--determined by a panel of six graduate student judges (three males and three females). The speakers selected were rated by the panel of judges on their attractiveness as well as their speaking voices on intonation, clarity, and diction.

Recruitment

Subjects were recruited by the experimenter (see above and Appendix D) to take part in a study investigating aspects of public speaking. Subjects were asked to sign a volunteer list for the day and time that they could participate.

The presentations were shown on a small group basis and for this reason group size was restricted to no more than about eight persons per group. In addition, an approximately equal number of males and females were asked to sign up for any particular time slot.

Experimental Design

The design of the study was a 2x2x3 factorial design with three variables--sex of the subject, sex of the speaker, and sex-orientation of topic. Half the subjects saw and heard a male speaker, while half saw and heard a female speaker. Topics for presentation were of either masculine, feminine, or neutral interests, (i.e., chess, interior decorating, and snow skiing, respectively). In addition, the sex of the listener was varied so that for each speaker half the audience was male and the other half female. In summary, six conditions were generated consisting of either a male speaking on a masculine, feminine, or neutral topic, or a female speaking on a masculine, feminine, or neutral topic. There were 10 males and 10 females in each condition. Within each condition, half the males and half the females listened to one speaker and the remainder listened to the other same-sex speaker. In cases of more than ten (five males and five females), subjects were randomly excluded from the analyses. Groups were randomly assigned to conditions.

Measures

The dependent variables were ratings of the effectiveness of the speaker, the information content of the speech (assessed by rating scales), and content recall of the presentations. Content recall was assessed by free recall and check list formats (see Appendix E).

Ratings of subjects' prior knowledge, interest and their evaluation of the topic they were presented on a masculine-feminine dimension were also collected. In addition, attractiveness ratings of the speakers were also collected. All ratings were done on 7-point scales.

Procedure

Subjects were greeted by the experimenter and were allowed to relax and talk with one another before the session began. After the arrival of all subjects in the group to be tested, subjects were requested not to talk and were read the instructions (see Appendix F).

After being read the instructions, subjects were asked to rate (on 7-point scales similar to the preliminary survey scales--see Appendix E) their knowledge and interest of the topic to be presented. Each group was then shown a videotaped presentation of either a male or female speaking on a masculine, feminine, or neutral topic. After the presentation, rating slips were supplied on which subjects were asked to rate the speaker on a scale of 1 to 7 for overall effectiveness. Subjects were also given a 7-point rating scale on which they were asked, "How informative was the presentation?" Subjects were then asked to recall as much of the content of the presentation as they could. In addition, as an added measure to test for content recall, subjects were given a checklist of items and asked to check

which items were mentioned in the presentation they had just heard.

On a 7-point masculine-feminine scale (1 being associated with masculine), subjects were then asked to evaluate the sex appropriateness of the topic they were presented.

As a check on the perceived attractiveness of the speakers, recent photographs of the speaker and several other individuals (the three other speakers) were shown. Subjects were asked to rate each picture on a 1-7 scale of attractiveness, 7 being most attractive.

Subjects were then asked by the experimenter if for any reason their data should not be used in the analyses and to please explain. It was felt that this kind of open questioning would allow subjects to inform the experimenter of any suspicions or doubts they might have had about the experiment without providing information as to the true nature or purpose of the experiment. These responses were written and were collected by the experimenter with the rest of the information at the end of the session.

At this point, subjects were not debriefed, but were told at the conclusion of the study they would be completely debriefed as to the purpose and results of the study. Subjects were then asked not to talk about the experiment and excused.

Chapter 3

Results

Elimination of Subjects

Of the 128 subjects who participated in the study, only the results of 120 of the participants (60 males and 60 females) were used in the analyses. Of the eight that were excluded, five were males in the male speaker/neutral topic condition. Three of these subjects were excluded because they failed to follow directions; another subject was dropped because of several interruptions during the videotape presentation; and a fifth subject was excluded because he was not currently enrolled as a student. Three female subjects, due to over-recruitment, were randomly excluded from the analyses, one each from the following conditions: male speaker/masculine topic, male speaker/feminine topic, and female speaker/neutral topic.

Subjects were asked to report if they were suspicious of felt that they knew what the study was trying to measure while they were completing the measures and viewing the presentation. No subject reported being suspicious or was

able to report he or she knew the hypothesis while completing the measures pertaining to the speaker or the speech.

Masculinity-Femininity, Prior Knowledge and Interest

Subjects' ratings of masculinity-femininity and their prior knowledge and interest for the topic they were presented is shown in Table 1 (see Appendix G). A comparison of subjects' prior knowledge and interest ratings with subjects' knowledge and interest ratings from the preliminary survey show, with one exception, similar results (see Figure 1, Appendix G). Males reported themselves to have greater knowledge about the topics than females, with the exception of males in the preliminary survey who reported having less knowledge about interior decorating (feminine topic) than did females.

For the interest measure the results were similar to those found for knowledge (see Figure 2, Appendix G). Males reported themselves to be more interested in chess (masculine topic) and snow skiing (neutral topic) than females with one exception. Males in the student group from the preliminary survey rated themselves less interested in skiing than females. In addition, females for all groups expressed a greater interest in interior decorating than did the males in their respective groups.

In general, the ratings of the masculinity-femininity of the topics by the subjects who participated in the present

study (see Table 1, Appendix G) corresponded very closely to the results from the preliminary survey groups (see Figure 3, Appendix G). Since the topics were assigned their gender status based on the results from the preliminary study, the gender ratings of the topics by subjects in the present study are supportive of the classification of the topics by gender identification. Subjects viewed chess as a masculine-type activity (combined mean for males and females = 3.28), interior decorating as a feminine-type activity (combined mean for males and females = 4.58), and snow skiing as essentially neutral (combined mean for males and females = 3.83).

Additionally, it was desired that subjects have little knowledge of the topics but have at least a moderate interest in them. Subjects reported themselves, prior to the presentation, to have only little knowledge of the topics (combined mean across topics = 2.35) and were moderately interested (combined mean across topics = 3.83) in learning more about the topics; thus the condition that subjects have little knowledge but be interested in the topics appears to have been met.

Prior Knowledge, Interest, Effectiveness and Informativeness Ratings

The MANOVA yielded a significant effect for sex of subjects (approximately $F(4,105) = 4.47$, $p < .003$). Examination of the canonical correlations showed that the dependent

variables knowledge and effectiveness contributed most to this effect r = .71 and r = .54, respectively). The contributions of the measures of interest and informativeness were minimal.

A significant effect for Topic was also found (approximately $F(8,212) = 3.09$, $p < .003$). The measures of prior knowledge and effectiveness of the speaker also contributed the most to this effect but were negatively related (r = -.58 and r = -.41, respectively). The canonical correlations for the measures of interest and informativeness also contributed substantially (r = .32 and r = -.27, respectively).

The interaction of Sex of Subject X Sex of Speaker also yielded a significant multivariate F (approximately $F(4,105) = 2.66$, $p < .036$). In contrast to the results for the main effects of Sex of Subject and Topic, though, the greatest contributing factor to this effect was effectiveness (r = .70) while the measure of knowledge contributed a considerably smaller amount (r = -.35).

Knowledge. The analysis of variance revealed that for the knowledge measure, across all topics, male subjects reported themselves to have significantly more prior knowledge than did female subjects ($F(1,108) = 9.32$, $p < .003$, U.I. = .058), including knowledge for the feminine topic--interior decorating (see Table 1, Appendix G). No differences in prior knowledge were found across speakers, but there was a significant difference due to Topics ($F(2,108) = 4.16$, $p < .018$, U.I. = .054). Subjects were most knowledgeable about

chess and least knowledgeable about snow skiing; this difference was significant ($p < .05$) using Scheffé's post hoc comparison. No other comparison of knowledge for topic was significant.

Interest. For the interest measure a significant Sex of Subject X Topic interaction was found ($F(2,108) = 3.92$, $p < .022$, U.I. = .049). Male subjects were more interested in chess and snow skiing than female subjects, but female subjects were more interested in interior decorating (see Table 1, Appendix G).

Effectiveness. Overall, male subjects rated the speakers as better speakers (more effective) than did female subjects ($F(1,108) = 5.31$, $p < .023$, U.I. = .033). Also, there was a significant interaction for Sex of Speaker X Sex of Subject ($F(2,108) = 5.31$, $p < .023$, U.I. = .029). Male speakers were rated equally effective by both male (mean = 3.17) and female (mean = 3.17) subjects. Female speakers were perceived as significantly better than male speakers by male subjects (mean = 4.07, Scheffé, $p < .10$), but not by female subjects (mean = 2.93). Female subjects saw no difference in effectiveness between male and female speakers (means = 3.17 and 2.93, respectively). Furthermore, male subjects rated female speakers significantly higher (more effective) than did female subjects (Scheffé, $p < .025$). Thus, male speakers were seen as moderately effective by both male and female subjects; male subjects perceived female speakers as more

effective than male speakers, while female subjects saw no difference in the effectiveness of male and female speakers.

Interest. No significant effects were found for the dependent variable interest. This was expected since the results of the MANOVA indicated low correlations between the effects reported and the interest measured.

Intercorrelations among the four dependent variables (see Table 2, Appendix G) showed that both knowledge and interest were significantly correlated with ratings of effectiveness ($r = .20$, $p < .027$ and $r = .18$, $p < .038$, respectively). A similar relationship between the informativeness of the presentations and knowledge and interest was not present ($r = .13$ and $r = .10$, $p > .14$, respectively).

Free Recall and Checklist Recall

Scoring. The free recall measure was scored based on the number of factual items reported by subjects that were included in the talk in which they were presented. The topic presentations differed slightly in the amount of factual items, so to allow for a comparison of free recall scores across topics, a relative score, the number of facts reported by each subject divided by the total possible number of facts for that topic presentation, was calculated. In addition, an absolute score, which was simply the absolute total number of facts reported by each subject, was also used in the analyses. (Relative scores may be interpreted

as a more conservative score because it is based on how much information a subject could have recalled. Absolute scores are a bit more liberal and may be considered a measure of how much information a subject actually did recall.)

Subjects' protocols were scored by three independent judges. The mean of the judges' ratings (of the amount of information reported) was used in the computation of the free recall scores. To determine percentage of agreement between judges, agreement was recorded when the discrepancy between the number of facts counted by a pair of judges was four or less. When a discrepancy was greater than four facts, the most discrepant rating was dropped and the experimenter's rating of that protocol was substituted and a mean based on these three ratings was then used. (Since this occurred for only a few cases, and only one discrepancy was between more than one pair of judges, this system seemed reasonable to use without artificially inflating percentage of agreement among judges.) Percentage of agreement was relatively good using this system, and it can be noted that agreement for over half of the items occurred within a two-fact discrepancy range (percent of agreement for a two-fact discrepancy range 55.0-92.5%, median = 84.1%) with the masculine topic having the lowest percentage of agreement at this range. Within a four-fact discrepancy range, percentage of agreement scores for the masculine topic ranged between 80-85% (median = 82.5%), for the feminine topic 97.5-100.0%

(median = 99.2%), and for the neutral topic 90-100% (median = 97.5%).

The checklist recall measure was an objectively scored measure of ten items based on information taken directly from the presentations. For each checklist (a separate corresponding checklist was developed for each of the topic presentations--see Appendix E), five of the items were completely true and five were not. Error scores were derived based on the number of items checked as true when they were not true plus the number of items that were identified as false but were in fact true; thus a maximum error score of ten (incorrectly identifying all non-true statements as true and failing to identify any of the true statements as true) was possible.

Analyses

The measures most important to the support of the hypotheses were the free and checklist recall. Since it was hypothesized that both male and female subjects would recall more information from a male speaker than from a female speaker giving the same presentation, the results of these measures are of critical importance to the support of the hypothesis.

A multivariate analysis of variance was performed in order to assess the effects of the two measures of information recall and to identify the importance each measure had in

contributing to differences found between effects. Relative and absolute free recall scores were analyzed separately and will be referred to as relative and absolute recall in order to avoid confusion.

A MANOVA for relative recall and checklist recall produced a marginally significant main effect for Sex of Speaker (approximately $F(2,107) = 2.41$, $p < .092$); a highly significant main effect for Sex of Subject (approximately $F(2,107) = 5.83$, $p < .004$); and a significant main effect for Topic (approximately $F(4,216) = 2.65$, $p < .034$). No interaction effects were reported.

Important to these results are the canonical correlations which indicate that for the effect of Sex of Speaker, checklist recall contributed very highly to the effect ($r = .96$) and relative recall somewhat less ($r = -.60$). For Sex of Subject the checklist measure also contributed highly to the effect ($r = .95$), but the contribution of relative recall was negligible ($r = -.03$). For the factor Topic the relative recall measure was highly related to the effect ($r = .99$), while the contribution of the checklist measure was less important ($r = -.40$).

A MANOVA for absolute recall and checklist recall yielded main effects for Sex of Speaker (approximately $F(2,107) = 3.31$, $p < .039$) and Sex of Subject (approximately $F(2,107) = 5.26$, $p < .007$). Examination of the canonical correlations for the effect of Sex of Speaker showed that

both the checklist and absolute recall measures contributed about equally ($r = .81$ and $r = -.70$, respectively) to the effect. In contrast for the effect of Sex of Subject, the checklist measure contributed virtually everything to the effect ($r = .99$) while absolute recall was only slightly related ($r = -.17$).

Univariate analyses were also performed to further identify the effects of the variables for each dependent measure. The summary of the analysis of variance for the relative and absolute free recall measures are shown in Table 3 (see Appendix G). In relative recall no effect of Sex of Speaker or Sex of Subject was found, but a main effect of Topic did reach significance ($\underline{F}(2,108) = 5.46$, $\underline{p} < .006$, $\underline{U.I.} = .067$). A Scheffé post hoc comparison indicated significant differences in recall of information between chess and snow skiing ($\underline{p} < .01$) and interior decorating and snow skiing ($\underline{p} < .10$). Recall of information was greatest for chess and recall of information was least from the presentations on snow skiing. For absolute recall the effect of Sex of Speaker approaches significance ($\underline{F}(1,108) = 3.26$, $\underline{p} < .073$, $\underline{U.I.} = .018$, male speakers were associated with greater recall of information; no other effects were found.

Mean scores as a function of Sex of Speaker, Sex of Subject and Topic for the two free recall measures are presented in Table 4 (see Appendix G). Mean scores of information recall as a function of Sex of Speaker and Sex of

Subject are also presented. Consistent with the prediction that male speakers will be recalled better than female speakers is the trend for greater recall of information when presented by male speakers. In addition, there is also the tendency for female subjects to recall more when the speaker is male than when the speaker is female, which is also consistent with the expectation that females listen less to other females.

The summary of the analysis of variance for checklist recall is shown in Table 3 (see Appendix G). Here the results clearly favor recall of male speakers. Subjects recalled more information (identified more correct items and misidentified fewer incorrect items as correct (see Table 4, Appendix G) when listening to a male speaker than when listening to a female speaker ($F(1,108) = 4.44$, $p < .037$, U.I. = .026). There was no interaction of Sex of Subject X Sex of Speaker; male subjects recalled significantly more information than female subjects ($F(1,108) = 10.62$, $p < .001$, U.I. = .074) (see Table 4, Appendix G).

Effectiveness, Informativeness, Free Recall and Checklist Recall

Intercorrelations of subjects' ratings of effectiveness and informativeness with the information recall measures are presented in Table 5 (see Appendix G). The results indicate moderately strong correlations of the checklist measure with

ratings of effectiveness ($r = -.23$, $p < .012$) and informativeness ($r = -.28$, $p < .002$). The absolute recall measure did not correlate significantly with either effectiveness of informativeness ($p > .10$), while relative recall did show significant relationships ($r = .18$, $p < .044$, and $r = .25$, $p < .006$, respectively).

This discrepancy suggests that the evaluation of a speaker's effectiveness and the informativeness of the speech may influence subsequent recall of the content of the presentation, if a checklist or relative measure is used. To check this possibility, a multivariate analysis of covariance was performed on the recall measures controlling for subjects' ratings of effectiveness and informativeness. The adjusted means are shown in Table 6 (see Appendix G). These can be compared to the means presented in Table 4 (see Appendix G), and it can be seen there is little change in magnitude; thus subjects' ratings of a speaker's effectiveness and the informativeness of the presentation had no influence on subsequent recall of information.

For the checklist measure the adjusted means are also shown in Table 6 (see Appendix G). The results of the covariance procedure show little change in the effects; thus ratings of effectiveness and informativeness also had little influence on subsequent recall of information.

Prior Knowledge, Interest, Free Recall and Checklist Recall

The differences for knowledge and interest reported earlier were also examined to assess their influence on the recall of information from the presentations. Intercorrelations of the ratings of knowledge, interest, and the information recall scores are presented in Table 7 (see Appendix G). In a similar fashion to the comparisons of effectiveness and informativeness to the information recall measures, absolute recall failed to correlate significantly with knowledge and interest ($p > .11$). Relative recall correlated significantly with knowledge ($r = .19$, $p < .04$) and checklist recall correlated significantly with knowledge ($r = -.38$, $p < .0001$) and interest ($r = -.24$, $p < .009$).

To check for the effect of the variables of prior knowledge and interest, a multivariate analysis of covariance on the measures of information recall controlling for subjects' ratings of knowledge and interest was conducted. The adjusted means are presented in Table 8 (see Appendix G). Comparisons of these means with those presented in Tables 4 and 6 (see Appendix G) show essentially the same results. Information presented by male speakers was recalled better than information presented by female speakers regardless of subjects' prior knowledge and interest in the topic they were presented. In addition, when knowledge and interest were controlled, male subjects outperformed female subjects on the information recognition (checklist recall) measure; however, the free recall measures do not show this relationship.

Masculinity-Femininity, Identification with Sex of the Speaker

As was shown in Table 1 (see Appendix G), the gender of the topics were identified to be of either a masculine (chess), feminine (interior decorating), or neutral (snow skiing) type activity by subjects participating in the experiment.

A further breakdown of that data by Sex of Speaker (see Table 9, Appendix G) suggests a possible sex bias or identification of the gender of the topic by sex of the speaker. An analysis of variance on the masculinity-femininity ratings of the topics was performed to examine this possibility and the summary of this analysis is shown in Table 10 (see Appendix G).

Highly significant main effects were found for both sex of the speaker ($F(1,108) = 17.84$, $p < .0001$, U.I. = .095) and Topic ($F(2,108) = 20.32$, $p < .001$, U.I. = .225). A significant Sex of Speaker X Topic interaction was also found ($F(2,108) = 2.95$, $p < .055$, U.I. = .029).

To determine the simple interaction effects, Scheffé's post hoc comparison tests with Cicchetti's correction (1972) were performed to identify the simple interaction effects. The results of this analysis showed that ratings of the masculine topic (chess) were significantly different for sex of speaker, so that chess was perceived as a more masculine type activity when presented by a male than when presented

by a female speaker. No sex bias of topic by speaker was found for the feminine or neutral topics (interior decorating and snow skiing) although for interior decorating there was the tendency to rate it as more of a feminine type activity when presented by a female speaker.

In addition, further support of a Sex of Speaker bias on the identification of the gender of the topics is provided by the fact that the ratings for chess (the masculine topic) were rated significantly different (in the masculine direction) than either interior decorating or snow skiing, when presented by a male speaker. Interior decorating (the feminine topic) and snow skiing (the neutral topic) were not perceived as significantly different.

When presented by female speakers, interior decorating was rated significantly different from chess and snow skiing. No differences in ratings were found between chess and snow skiing. Thus the results provide some support for a sex biasing of topics, as suggested by the gender identification of the topic with sex of the speaker. When the male speaker presented the masculine topic, it was perceived as more masculine than when presented by a female speaker. The same kind of effect occurred for the female speakers and the feminine topic. When presented by the female speakers, interior decorating was rated significantly different (in the feminine direction) from either chess or snow skiing. For both male and female speakers, snow skiing was not

perceived differently from the topic associated with the opposite sex.

Effect of Attractiveness

No relationship was found for speaker attractiveness and subjects' ratings of the speaker, the presentation, or recall of information. Differences between ratings of effectiveness, informativeness, and the measures of information recall by individual speaker were not significant.

Chapter 4

Discussion

The results of the present study confirm the prediction that when a male and female are saying the same thing, more attention will be paid to what the male is saying than to what the female says. More information was recalled from presentations given by male speakers than from identical presentations given by female speakers, by both male and female subjects. Subjects watching presentations made by a male speaker recalled (free recall) significantly more information and identified more information as correct (checklist recall) than subjects who heard the same presentations by a female speaker. It was also found that the sex appropriateness of the topics had no effect on a speaker's effectiveness in conveying information. Regardless of the topic, male speakers were more effective; subjects watching a male present recalled more information and identified more information correctly than did subjects who viewed presentations by a female speaker.

What the results suggest is that males are listened to more carefully than are females, and that males are listened to more closely over a range of topics than are females. In other words, when women talk, both men and women are less apt to pay attention to what they are saying, and that this "failure" to listen is directly related to the stereotyped notion of a woman's ability to have and communicate information. It has already been demonstrated in previous research that males have been considered to be more intelligent, sincere, knowledgeable, competent, better leaders, and more effective counselors than women (e.g., Spence & Helmreich, 1973; Feldman-Summers & Kiesler, 1974; Day & Stogdill 1972; Greenberger & Sorensen, 1970). This tendency to evaluate males and females differently has at least in several studies (e.g., Wexley & Hunt, 1974; Day & Stogdill, 1972) been shown to be the result of perceived rather than real differences in behavior; and that when women have demonstrated ability equal to that of men, they have often been chastised, rejected, or both (e.g., Hagen & Kahn, 1975; Horner, 1972; Piacente, Penner, Hawkins & Cohen, 1974).

Deaux and Emswiller (1974) demonstrated that males and females perceived differences in capabilities of males and females on tasks involving either luck or skill. Basing their predictions on the "typical" male and female, subjects attributed successful performance on a task by a male largely due to skill, while an equal performance on the same task

when done by a female was perceived less attributable to skill and more to a factor of luck. Furthermore, subjects perceived no difference in performance on the task, yet there was a definite difference in causality of the performance, which clearly supports a sex-linked bias. In fact, when successful performance was achieved by a male, it was more likely to be seen as indicative of his intelligence; but the same attribution was not given for successful female performance. What this suggests is that the expectations of what is appropriate and capable behavior of men and women may influence the perception of actual behavior, and that having a preconceived notion of behavior may reduce the chances that unexpected behavior (performance) will be observed (noticed).

In the present experiment, male speakers were evaluated equally effective by both male and female subjects. Female subjects also rated the female speakers to be equal in effectiveness to the male speakers, but male subjects did not. Instead, male subjects perceived the female speakers as significantly more effective than their male counterparts. Considered alone, this finding suggests that males felt the female speakers were more effective in presenting the topics than were the male speakers, whereas female subjects saw both sex speakers as equally competent. However, when the results of information recall for sex of the speaker are also considered, a somewhat paradoxical situation results.

Although male subjects rated the female speakers as more effective than the male speakers, they recalled significantly less information from their presentations.

To account for this seemingly paradoxical phenomenon, two explanations can be offered. One is that the male subjects were attracted to the female speakers and paid more attention to their physical appearance than to what they were saying. This explanation, though plausible, is unlikely for two reasons. First, the presentations were videotaped and only the speakers' shoulders, neck and head were visible--thus eliminating other body parts that may have been distracting to the audience; physical appearance then was limited to speakers' face and hair. Although the female speakers were rated somewhat more attractive than male speakers, attractiveness ratings of male and female subjects for each of the speakers was almost identical. Secondly, had male subjects paid more attention to the female speakers' physical appearance recall of information by male subjects should have been a great deal less due to the distraction. However, males recalled only about one item less than males who watched male speakers. The average difference on the item recognition task was less than one-half of an item, hardly enough to support the argument that males were distracted by the female speakers' physical appearance.

Some recent findings suggest another explanation. Until recently, the results of studies dealing with sex bias

and the evaluation of performance consistently showed that identical performances by a male and female were not evaluated equally (Goldberg, 1968; Pheterson, Kiesler & Goldberg, 1971; Starer & Denmark, 1974). When compared to the same performance done by a male, female performance was rated as inferior. From these studies and others (i.e., Deaux & Emswiller, 1974), it would be predicted that males would be perceived to do at least moderately well in most of what they attempted to do. It would also be expected that performance by a female would receive a lower evaluation than for the same performance done by a male. However, other studies (i.e., Chobot, Goldberg, Abramson & Abramson, 1974; Levenson, Burford, Bonno & Davis, 1975; Mischel, 1974) have reported a reversal to this trend of negative evaluation of performance by women. It may be that due to conciousness raising and acceptance of work performed by women that other women are now more apt to identify a female's performance as being on a par with that of a man's. Men, too, may also be aware of the increased attention given to the quality of an activity performed by a woman. However, their awareness may only extend to the identification and approval of performance by women and not to any real appraisal or appreciation of it. Rather than evaluate the actual performance, males may compare their impression of the performance to what they expected the quality of the performance to be. Thus, when confronted with the occasion to evaluate a female's performance when she has done well, males might tend to overevaluate

her performance, rating her behavior superior to that of a male, even if in actuality the performance of the activity was the same. Male subjects, then, may have overrated the female speakers' effectiveness because they did not expect them to do so well in presenting a relatively informative presentation.

The finding that male subjects recalled significantly more information and identified significantly more information as correct than did female subjects was an unexpected finding. Male subjects also reported knowing more about all the topics, but the difference in reported knowledge was substantial for only the masculine topic--chess. Male subjects also expressed a greater interest in the masculine and neutral topics. Only for the feminine topic (interior decorating) was this trend reversed.

This finding has important implications for the notion of sex-role stereotypes. For one, the common assumption that males in general know more about a wider variety of topics than do females is supported. The males in the present study assumed they knew more (whether they actually did was not tested), and their better performance on the information recall measures suggests that they probably did know more about the topics used in the study. Although it might be argued that males would normally know more about these topics, the ratings of the topics "masculinity-femininity" and "subject's interest in the topics" offers evidence

against this argument. There was no difference in interest of subjects for snow skiing, and female subjects expressed a greater interest in interior decorating than did male subjects; yet males reported having a greater knowledge for both of these topics. Also, the fact that the topics of snow skiing and interior decorating were perceived as neutral and feminine-type activities, respectively, by both males and females further suggests that an interpretation that males were likely to know more about the topics is unlikely. Furthermore, the topics selected for the study were based on a preliminary survey that determined these topics to be of low familiarity and of moderate interest to both males and females. Finally, as reported in the results, controlling for the factors of prior knowledge and interest produced no significant effect on information recall for the presentations, thus eliminating this argument as an explanation for the results reported.

The fact that males did do better on the information recall tasks and the possibility that males may know more about a wide variety of topics is an interesting point. But the underlying cause of this situation would appear to be more important. It has already been demonstrated that there is a general bias against competent women (Hagen & Kahn, 1975; Piacente et al., 1974; Seyfried & Hendricks, 1973), and the cause of this bias has typically been related to expected sex role behavior and sex stereotyping. Stated simply, the notion of sex role stereotyping implies that

women are not supposed to be as competent as men, particularly in skills and activities that men typically engage in. Similarly, this line of thought might be extended to include knowledge of activities and skills that are generally considered to be performed by men. Although women may also take part in these activities, their "secondary" association with these activities may limit their degree of knowledge so that they are likely to have only superficial information in comparison to men.

How and why this difference in knowledge for a wide variety of skills and activities might occur can only be speculated. One possible factor may be related to individual interest. It may be that males have a greater interest in a wide variety of skills and activities than do females. However, if this is true, why this should be the case is not readily apparent except that it is likely related to sex role biases and expected sex role behavior. A second factor may be related to opportunity. Females may not have the same access to sources of information as do males, and when they do the information they receive may be to some degree qualitatively different. If these assumptions are true, one explanation that may explain this process can be offered.

That males may know more about a variety of topics may be related to the expectation that they already know something about many topics and are probably interested in learning more. Likewise, even if a male does not know something

about a given topic, it may be presumed that he would be interested in learning something about it. The same presumptions are not likely assumed to be true for females. It is more likely that women are expected to have a more limited and concentrated knowledge and interest for a smaller range of topics. Coupled with this possibility is the additional likelihood that, in general, women are not sought out as receivers of general or technical knowledge. Consequently, if our societal practices favor males as recipients and seekers of general and technical knowledge, males probably do, in general, have a greater knowledge on a wider range of topics than do females. Also, it is likely that if this is the situation, males would be encouraged more to express an interest for a wide range of information and thus enhance the extent of their existing knowledge for a given topic or range of topics.

The situation becomes even more disconcerting if we consider that many of the top positions in business, industry, management, education, medicine, and law are held by men (Schmuck, 1976; Time, 1976; Wilburn, 1974). This undoubtedly perpetuates the system. While men are free to interact with other men in acquiring information, women are less free to do so. Here, as in other areas where there has been sex discrimination, women must cope with the effects of societal roles and values. Women are limited to the kinds and extent of interaction they can have with men. Showing an interest

in information from a member of the opposite sex may oftentimes be interpreted to reflect an interest in that individual on a personal level. Consequently, women may refrain from seeking information from men to avoid this interpretation. So that, in effect, they may be turning to other women that are less familiar and less knowledgeable about the topics they wish to know more about, with the result being perpetuation of the prophecy that women, in general, know less about a wide range of topics.

From this line of thought, it hardly seems surprising that male speakers would be listened to more closely than female speakers, and that this would be the case for a wide range of topics. It might also be expected that only specific topics that are strongly identified with being female would receive more attention if presented by a female than by a male.

It should be noted, of course, that there would be many exceptions to the above explanation. Many women are highly competent and are a great deal more knowledgeable than many men. The explanation presented above is given only as a suggestion as to the underlying process of why some women may be less knowledgeable than some men--particularly if it can be assumed they have relatively equal interests in a given subject area. It should be noted, too, that due to recent pressure for change, the "appropriateness" of sex role behavior has changed dramatically. The "double standard"

that was once so prevalent in our society has been seriously challenged with the full expectation that the notion of "appropriate" sex role behavior will finally be vanquished. Furthermore, with the improvements in the educational media and the already available amount of information available to all, the "edge" males might have over females for knowledge is likely to be eliminated and with it the association of knowledge and competence with the male sex.

Finally, one additional result of interest was that, depending on the sex of the speaker, the rating of the masculine topic--chess--and the feminine topic--interior decorating--was apparently influenced by whether the speaker was male or female. Subjects rated the masculine topic less masculine when presented by a female and the feminine topic as less feminine when presented by a male than when the presentations were made by a male or female speaker, respectively. This is interesting because it suggests that one way to reduce the sex bias of certain activities is to get more individuals of the sex not typically associated with that activity to increase their participation in that activity. While this is an interesting prospect and one which has already received notice and action (i.e., with domestic duties), it should not be concluded that the mere change of association of an activity from being characteristic of one sex so that it is characteristic of both sexes necessarily changes the activity of the structure of the activity in

which males and females may play different roles. Although labeling a given activity or behavior as neutral as opposed to being feminine or masculine may produce a greater interest or acceptance by the sex not formerly associated with it, the acquisiton and execution of a comparable performance is likely to take time and patience. In conclusion, in order to attain the best possible evaluation of male and female performance, the opportunities for the acquisition of the skills and information necessary to the performance need to be equalized. While it is suggested that females may perhaps be disadvantaged in terms of their access to information and opportunity to develop the appropriate skills, it should not be overlooked that even if steps are taken to correct the situation, biases against demonstrating and utilizing these skills may still exist. The problem for future research will be to identify where these biases are and to develop acceptable means to eliminate the practices that tend to perpetuate them.

Footnotes

[1]Subjects were predominantly upper level undergraduates.

[2]The additional group of 25 male and 25 female subjects was made up of graduate students and individuals holding full-time jobs ranging from school teacher to engineer to model to salesman. In addition, they were of approximately the same age (early 20s to mid 30s) as the student group (See Appendix G) for a comparison of the preliminary survey and experimental group's ratings of the topics used in the present study).

[3]These sources are written for the general public and are relatively free of sex bias. The presentations were excerpted and edited from Chess in a Nutshell, Fred Penfeld, Permabooks, New York, 1958; Inside Design, Michael Greer, Doubleday & Co., Inc., Garden City, New York, 1962; House & Garden Guide to Interior Decoration, Robert Harling, St. Martins Press Inc., 175 Fifth Avenue, New York, New York, 1967; and Rules of the Game, Diagram Group, Paddington Press, New York, 1974.

[4]The intent here was to make the presentations as close to a talk as possible.

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Appendices

Appendix A

The Effects of Sex-Role Stereotyping--

An Extended Discussion

The Effects of Sex-Role Stereotyping-- An Extended Discussion

The status of women today is rapidly changing. More and more women are entering into what had been traditionally "male only" occupations and institutions. Backed by the Women's Liberation Movement, the Equal Employment Opportunities Act, and the Equal Rights Amendment, women have become a valuable untapped source of creativity and proficiency in the fields of science, business, and industry. Subsequently, the number of women entering into top-level management and administration is increasing. As the barriers for these positions are broken down, there is a developing need to know just how capable women really are. The time has come for long-held beliefs that women are unable to handle "too much responsibility" and "the pressures" of management and business to be tested. Until recently the truth of these stereotyped views had seldom been questioned. Even more, there is little empirical evidence that shows that women cannot make decisions or handle problems in an emergency. Yet, despite efforts to change these perceptions of women, progress has been at best difficult to assess.

One result, thus far, has been that very little has changed. Schein (1973), for example, asked male middle-level managers to describe women, men, and managers, and

found "that successful middle managers are perceived to possess those characteristics, attitudes, and temperaments that are more commonly ascribed to men than to women, in general. This association between sex-role stereotypes and perceptions of requisite management characteristics seems to account in part for the limited number of women in management positions." When she asked 167 female middle managers the same question (Schein, 1975), the results were very similar. Female middle managers also viewed successful middle managers as possessing characteristics, attitudes, and temperaments more characteristic of men in general than of women in general. Also, in her earlier study the age of the male middle managers influenced their perceptions of women in general and successful middle managers. Managers 49 years and older were more likely to describe women as more similar to middle managers than younger managers. For female middle managers, however, age did not moderate their perceptions of women and managerial success.

Not only have the individual personality traits that are identical with successful high-level managerial and professional positions changed little, but those same traits identifying success and competence have also remained predominantly associated with the male sex. Fidell (1970) used hypothetical descriptions of young Ph.D.s who were identical except for sex, and found from the sample of psychology departments to which the applications were sent that the

male "applicant" was offered more pay and more often a higher-level job than the "equally qualified" female applicant.

Rosen and Jerdee (1974), using a role-play situation, had male undergraduate business students consider a set of job descriptions and evaluate an applicant for an executive position with a clothing manufacturing company. The experimenters manipulated sex of the applicants and job requirements of the positions so that for each position there were two versions of the job requirements. One version presented "demanding" job requirements that required aggressive interpersonal behavior and decisive managerial action. The other version described "routine" behavior requiring clerical accuracy and dependable performance. They, too, found that females with equal qualifications were selected significantly less often than the males for the same managerial positions. In addition, females were rated as having less technical potential and less potential for fitting in well with the organization than were males. Job conditions also influenced evaluation of the male and female applicants. Females were seen as being more suitable for the less demanding jobs than for the more demanding ones but slightly less suitable than men for the less demanding positions.

As a possible consequence of this differential evaluation, women may incorporate these stereotyped views in their perceptions about themselves and other women that may lead them to exhibit behaviors consistent with the stereotype.

It may be, as the evidence from the studies to be presented would suggest, that women learn different patterns of behavior and conform to the expectation (either unintentionally or on purpose) that they will act differently from men in the same situation. The evidence from studies dealing with sex-role stereotypes, competence, bias against women, and actual behavioral correlates further support the notion that the traditional view of appropriate sex-role behavior and actual performance of these behaviors by women may lead to self-limiting behaviors and influence the development of expressive and creative behaviors. It is possible that the training men receive during their secondary schooling and college years provides a broader base for them to develop more effectual means of expression and performance. If this is the case, one result is already evident. More men become managers, leaders, and executives than women. The difference does not likely stem from any genetic source, but is due almost completely to social and developmental influences. In addition, the difference probably lies more in the acquisition and development of basic skills like speaking, listening, and attention than in the more traditional global views of the "inferior" female.

Cecil, Paul, and Olins (1973) presented a list of 50 items to male and female students enrolled in management classes in which half were asked to rate a male applicant on which items would be important to consider in hiring him;

the other half of the students were given the same instructions except that the applicant was a female. For the male applicant, important variables to consider were the ability to change his mind on an issue, high persuasiveness, capability of withstanding a great deal of pressure, high motivation, and aggressiveness; whereas for the female applicant, important variables to consider were a pleasant voice, excellent clerical skills, a high school diploma, good computational skills, good grooming and appearance, and ability to express herself well. As these studies suggest, the tendency to evaluate ability and achievement on the basis of sex still remains; the sex of an individual remains a major determining factor in attributing expectant behavior.

Sex-Role Stereotypes

The evaluation that men and women have different abilities and personality traits has undoubtedly influenced women's choices of occupations (Hawley, 1971, 1972) and perceptions of their work environments (Athanaissades, 1973). Hawley found that female perceptions of males' views concerning femininity influenced their selection of a career. Athanaissades (1974) found that women in managerial positions perceive the organizational climate as less autonomous for them than for men in the same organization. Women feel they have less opportunity to participate, have insufficient authority, too often have decisions imposed on them from

above, and feel less free to express disagreement with superiors.

A woman's self-image of the appropriate sex-role behavior may also influence her behavior. Megargee (1969) paired high dominant males and females with low dominant males and females in a sexually-neutral clerical task in which one had to lead and the other follow. For the same sex high dominant/low dominant pairs, the dominant individual was either appointed (by the other) or assumed the leader role more often than the low dominant individual. However, when high dominant females were paired with low dominant males, frequently the female deferred the leader role to the male despite his being less dominant. Horner (1968, 1972) has suggested that women fear the prospect of competing successfully with men in masculine activities, and that women learn not to seek success in traditional masculine activities and occupations. This is because the dominant societal stereotypes view competition, competence, independence, and intellectual achievement as qualities basically inconsistent with femininity. Because seeking success in traditionally male "domains" has, at least until recent times, led to derogation and/or rejection by traditional males and females, both men and women have continued to hold the traditional sex role perspective of appropriate male and female behavior.

In addition, it is unlikely that men will make it any easier for women. Few men will concede their "superior" status to women to make them feel accepted as being equal, particularly in the areas that women most want to enter, i.e., high-level management positions and professional careers. How far women will go in achieving their aspirations will depend on a number of factors. One is the attitudes, beliefs, and opinions men and women have about women. Despite the changes brought about by the women's movement, Congressional legislation, and recent court decisions favoring certain women's rights (i.e., abortion, alimony, etc.), there still exists a not-too-uncommon finding that both sexes maintain traditional beliefs about appropriate sex-role behavior for women. Rosenkrantz, Vogel, Bee, Broverman, and Broverman (1968), for example, found that college students portrayed the ideal woman as less competent than the ideal man. Elman and Rosenkrantz (1970) investigated the ideal sex-role concepts for both men and women and found that the concepts of the ideal man and the ideal woman for both sexes closely paralleled male and female sex-role stereotypes. Their results showed that the ideal woman is perceived as significantly less agressive, less independent, less dominant, less active, more emotional, and has a greater difficulty in making decisions than did the ideal man. Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz (1972) likewise found that women are perceived to be relatively less competent, less independent, less objective, and less logical than men.

No doubt both men and women incorporate these views in their self-concepts, and since feminine traits are perceived as being negative, it is likely that this has contributed to women having a greater negative self-concept. Horner (1972) suggested that certain "masculine" qualities (i.e., aggression, mastering intellectual problems, attacking difficulties, and making final decisions) were fundamentally antagonistic or incompatible with femininity. In support of this notion, Broverman, Broverman, Clarkson, Rosenkrantz, and Vogel (1970) found mental health professionals tended to see a healthy woman as one who was more submissive, less independent, less adventurous, less aggressive, less competitive, more easily hurt, and more emotional than men or adults in general. This, they suggested, raises a serious question. If different standards exist for women than for adults, this places women in a double-bind. If they adopt standards devised for adults, they risk censure for failure to be feminine, but if they stay with the feminine stereotype, they are viewed (as suggested by the mental health professionals' evaluations) as being deficient in respect to certain behaviors.

Many women are convinced that men are threatened by intelligent females and that this may be a major deterrent to their career activity, particularly in male-dominated professions. Hawley (1971) felt that women may be influenced by what they believe men think is appropriate feminine

behavior. She tested this assumption by having women--selected on the basis of their career orientations of "homemaker" (women who are not gainfully employed outside the home), "feminine" (women who are employed in positions traditionally considered appropriate for women and in which women are well represented), and "androgynous" (women who are engaged in careers usually pursued by men and in which women are not well represented)--respond to a questionnaire on appropriate feminine sex-role behavior as they thought the significant men in their lives would. Women's perceptions of male views of the feminine ideal differed significantly, depending upon the career group to which they belonged. Women in traditionally feminine occupations tended to think men view behavior as appropriately sex-linked male or female. Women in the androgynous group did not perceive men as using sex as a basis for attributing appropriate behavior.

Kaplan and Goldman (1973) asked male and female college students to predict how the average male or female would respond to items reflecting attitudes toward women's roles in society. Half the subjects (male and female) responded as they thought the average male would. The results showed the average male perceiving women in a more traditional manner than the average female (by both male and female subjects--no difference). There was, however, a significant interaction between sex of the respondent and stereotyped belief. Female respondents perceived more dissimilarity

between the average man and woman than did the male respondents. While male respondents held more traditional views of women's role in society, they perceived a lesser discrepancy between male and female roles than did the female subjects--which suggests that despite a perhaps more liberal view of the traditional female role, females still see it as being different from that of the male's.

Gordon and Hall (1974) also found women are influenced by what they think men view as appropriate behavior. They asked recent female graduates to rate the ideal man and ideal woman, and to rate their own self-image and role conflict on a semantic differential-type questionnaire. These women perceived the male ideal image of a feminine woman as being more closely associated with conflict than the female ideal image of a feminine woman, and that the less stereotyped the women perceived the male to be, the less likely she would experience conflict in a non-home role (i.e., an androgynous role).

Competence

The attribution of sex-appropriate behavior has undoubtedly been an influence on the evaluation of male and female performance. It has been found, for example, that masculine attributes, activities, and occupations are considered (by both men and women) to be more desirable, prestigious, and important than feminine ones (McKee & Sheriffs, 1957, 1959;

Seyfried & Hendricks, 1973; Spence & Helmreich, 1972). Not all men, however, have enjoyed this favorable evaluation. The attraction literature (e.g., Aronson, Willerman & Floyd, 1966; Heinreich, Aronson & LeFan, 1970; and Mettee & Wilkins, 1972) has consistently shown that men prefer competent men. Deaux (1972) demonstrated that women, too, prefer competent men. One question resulting from this line of research has been: Do women prefer competent women? Since the male role has been perceived to be more success-oriented (Shaffer & Wegley, 1974), intelligent, sincere, competent (Spence & Helmreich, 1972), independent, courageous, less sensitive and less passive than the female role, an attribution of competence might produce a somewhat unfavorable view toward women who adopt these traits. Several studies (Piacente, Penner, Hawkins & Cohen, 1974; Spence & Helmreich, 1972; Deaux & Taynor, 1973; and Shaffer & Wegley, 1974) report that when women do assimilate certain masculine traits into their sex-role preferences, they are perceived as being more competent than women who keep traditional feminine sex-role preferences.

Contrary to this trend is a 1973 study reported by Seyfried and Hendricks (1973). They found that females having traditional feminine sex-role preferences were rated more attractive than females who adopted traditionally masculine sex-role preferences. Even when the masculine-role-oriented female is preferred, the attribution of competence has not been without consequence. Piacente, Penner,

Hawkins, and Cohen (1974) found that competent female experimenters were judged equally as competent as competent male experimenters, but that incompetent female experimenters were judged less competent than male incompetent experimenters. At the expense of their femininity, the competent female experimenters were seen as significantly more masculine, stronger, and harder than the incompetent female experimenters. In addition, the authors suggest that "(w)hen the females acted incompetently they retained their 'feminine traits'; however, when they displayed competency they were perceived to possess those 'masculine traits' that are usually associated with competency" (pp. 327-328).

Where this leaves women in terms of choice of sex-role preference may depend on what is considered competent behavior (ability, qualifications, etc.) for women. Since the trait of competency is usually associated with the male role, a male shown to be incompetent would be expected to receive a more unfavorable rating than an equally incompetent female. Deaux and Taynor (1973) had subjects judge an oral interview in which they rated either a high- or low-qualified male or female "applicant" for a study abroad program on competence and intelligence. As might have been expected, highly-competent males were rated more competent and more intelligent than highly-competent females (by both male and female subjects). In the low competence conditions, low competent males were rated less competent and less intelligent than an equally low competent female.

Spence and Helmreich (1972) found a strong preference for competent women by both males and females. The competency effect was further enhanced if the competent female also assumed certain traditional masculine traits. Both male and female introductory psychology students preferred a competent masculine-role-oriented female over a competent feminine-role-oriented female when they were asked to evaluate females applying for a position as a freshman orientation advisor who was presented as having either a masculine or feminine sex-role orientation (indicated by scores on a sex-role attitude scale) and being either well or not very well qualified for the job. They found that the competent masculine female was judged to be more socially attractive and more desirable as a work partner than the competent feminine-oriented female or either of the incompetent female models. In addition, males preferred the incompetent femine-role-oriented female over the incompetent masculine-oriented female, but that females preferred the incompetent masculine-oriented female over the incompetent feminine-oriented female.

For both the Deaux-Taynor and Spence-Helmreich studies, competent individuals and role orientations were judged more favorable than incompetent ones. The males in the former and both the male and female subjects in the latter studies showed preference for an incompetent female (feminine role orientation) over an incompetent male (or masculine role

orientation), suggesting a commonality between role-oriented appropriate behavior and sex-appropriate behavior (sex of the individual). As suggested by these two sets of findings, the attribution of competence may have been mainly attributed to the success orientation associated with the sex or the sex-role orientation of the "applicant." Males lacking qualifications and being non-success oriented are inconsistent with the expected role of males and, therefore, would be perceived as being less competent and intelligent (Deaux and Taynor) than an equally less-qualified female. Similarly, apparent failure of women having a masculine role orientation and low qualifications and abilities would also be perceived less approvingly.

For perhaps a different set of explanations, female subjects in the Spence-Helmreich study preferred the incompetent masculine-oriented female. The less favorable ratings for the incompetent feminine-oriented female can perhaps be attributed to either a more favorable rating of the incompetent masculine role type (presumably because of the association with masculinity), or because the evaluation was of a feminine role type. The lower rating of the feminine role type may have been because she was perceived as competing or attempting to compete in an activity not clearly feminine and one that demanded some identification with success. This first interpretation fits more closely with the masculine stereotype which paints an "aura" of superiority around male

performance. However, recalling Horner's (1968) suggestion that women fear the prospect of successfully competing against men in traditionally masculine activities, it may be that women not only try to avoid failure in competition with men but also look disapprovingly on women who are successful. There is growing support for the notion that some women tend to look unfavorably toward other women's efforts (e.g., Pheterson, Kiesler & Goldberg, 1971; Starer & Denmark, 1974; Shaffer & Wegley, 1974) when in competition with men.

Differences in the evaluation of competence congruent with the sex role is in part due to a person's attitude towards "appropriate" sex roles. When this is taken into account, certain interesting effects appear. In the Spence-Helmreich study it was shown that male subjects preferred the incompetent feminine role to the incompetent masculine role. However, when attitudes toward women were assessed (by Spence and Helmreich's Attitude Towards Women Scale - AWS), it was found that males scoring on the liberal side favored the incompetent masculine role. Males with traditional views liked the incompetent feminine role markedly greater than females described as competent, and both liberal and moderate attitude males tended to like the competent feminine role equally as well as the competent masculine one. With female subjects, similar findings were obtained. Females also tended to view the masculine role more favorably than the feminine roles. In addition, liberal females also

tended to rate the incompetent masculine role higher than the incompetent feminine role.

Shaffer and Wegley (1974) examined the possibility that success-oriented women may be viewed as threatening and unattractive by males and more dissimilar and unattractive by females, particularly if they adopt unquestionably masculine as opposed to traditionally feminine sex role preferences. Similar to Spence and Helmreich, Shaffer and Wegley had male and female introductory psychology students judge four stimulus persons (SPs), all females presented as having high- or low-success orientation and either masculine or feminine in sex preference. They found, however, somewhat different results. Spence and Helmreich, it will be recalled, found their subjects preferred the masculine sex-role preference female and rated her more attractive and competent than the feminine sex-role preference female. Wegley and Shaffer's subjects (both males and females) viewed the feminine sex role as more appropriate to women than the masculine sex-role preference. Consistent with traditional views, the masculine role preference stimulus persons were seen as more success oriented than the feminine role preference stimulus persons, but that both competent (success oriented) masculine and feminine sex role preference stimulus persons were seen as equally more attractive than either of the incompetent (non-success oriented) masculine or feminine sex role preference stimulus persons.

Also, contrary to Spence and Helmreich's findings, competent females expressing feminine sex role preferences were preferred to competent females expressing masculine sex role preferences. They were also preferred as work partners to the competent masculine females. Males indicated a stronger desire than females to work with a competent female. In addition, interestingly enough, though there was a strong attraction and desire to work with the competent feminine sex role female, most subjects reported a greater preference to hire the competent masculine role female.

One point to emphasize here is that there was a major difference in how the two studies manipulated masculine-feminine interests. Because of this difference, competence may have been perceived differently, and so a direct comparison may be misleading. Spence and Helmreich manipulated masculine-feminine interests by presenting the stimulus persons as engaging in activities like tennis, life-saving, ecology, and history--which were considered masculine activities that were likely to be viewed as more active, stimulating, interesting, and prestigious than the feminine ones of cooking, making clothes, and playing bridge. Shaffer and Wegley manipulated their stimulus persons' sex role attitudes by having them differ in "well-ingrained sex-typed attitudes and behaviors"[1] to which disagreement would put an individual at variance with the expected role and thus be viewed as unattractive, undesirable, etc.

Shaffer and Wegley's results support the notion that women may look unfavorably toward other women. Though their female subjects identified competency with masculinity and success, their preference for the feminine female may actually represent what they perceive to be true rather than what might be considered ideal.

One conclusion that can be made from these findings is that the women's movement has not completely removed the stereotyped views of women that have for a long time been maintained without question. While it is simply not the case that all women (and men) hold these views about women and while the evolvement of these biases and attitudes are not at issue here, their consequences have had a most important impact on our identification of appropriate and productive sex role behavior. The rather consistent result that women are often viewed as inferior or less competent than men is at the least a bit disconcerting, and it becomes more disturbing when it seems the only way women can improve their status is to be more like men. Even when they are, the results are often not favorable.

Bias Against Women

Pheterson, Kiesler and Goldberg (1971) suggested that one explanation for the apparent failure of women today to achieve as much success as men was due to prejudicial evaluations of their work by men. They suggested that if men

undervalue the accomplishments of women, women may also do so. Goldberg (1968) investigated prejudice among women toward women in the areas of intellectual and professional competence. College women were asked to evaluate supposedly published journal articles on the topics of linguistics, law, art history, dietetics, education, and city planning. For each of the articles, half of the subjects saw a male author's name and half a female author's name. The results confirmed the hypothesis that college women value the professional work of men more highly than the same work when done by a woman. Women rated the value of the articles lower when it was supposedly done by a woman than when it was done by a man.

Pheterson (1969) replicated Goldberg's study, but instead of college co-eds, used middle-aged, uneducated women and substituted professional articles on marriage, child discipline, and special education. The results did not follow Goldberg's, but instead indicated that women judged work done by a female equal to that of a male, and, in fact, the evaluations were almost significantly in favor of the female authors. Pheterson, Kiesler and Goldberg suggested that Pheterson's findings may have been due to different subject populations, or the different material contained in the articles, or a combination of the two factors. Alternately they proposed that because college women see articles written by professional men and women

more frequently, they are likely to be more critical of any work they might read and be less impressed by the fact the article has been published. On the other hand, the uneducated women might have viewed the publication of an article as a great accomplishment and overvalue the published work of women.

A third explanation is suggested by Mischel's recent replication (1974) of the Goldberg study. Using the same procedure, male and female high school and college students were presented articles on topics of law, city planning, dietetics, and primary education. She failed to get the same results as Goldberg and found that with the exception of high school students preferring a male author for the primary education article (traditionally a female field), the preferred sex of the author tended to match with the sex appropriateness of the field. The consciousness raising produced by the feminist movement may have produced identification with acceptance of the efforts of women in areas that women are already viewed to have competence so that women now are not likely to devalue work of women in those areas. The awareness created by the women's movement may in fact cause women to overvalue their and other women's accomplishments, particularly in traditionally masculine areas. What this might be reflecting is biased appraisal resulting from pressure from the movement to identify with the equality and equal opportunity sought for women.

Related to this line of thought is a study done by Starer and Denmark (1974). They presented to male and female college students two poems, presumably authored by a male and a female, each aspiring to be a writer. For half the subjects the authors of the poems were reversed. Interestingly, when tested in groups of all males or all females, subjects showed a preference for the same sex author, but when tested individually, males preferred the female author and females the male author. In the same sex groups, the authors suggested that perhaps the members felt group pressure to favor the member of their own sex, but that when alone, in the absence of any group pressure, males were more critical of work done by other males yielding higher ratings for the female author; and that females feel less pressure to not discriminate against work done by a female so give work done by a female a lower rating.

Chobot, Goldberg, Abramson and Abramson (1974) also failed to find clear-cut evidence of bias against the work of women by other women. The authors used articles from the occupational fields of history, education, dietetics, and linguistics and found that college men and women did not rate articles that were purportedly written by men any better than the same articles when said to be written by women. Though they found that females rated male-authored articles significantly more favorably than the same article authored by a female, they felt that due to the large number

of comparisons (58) the results were likely due to chance and did not support the notion of bias.

Pheterson, Kiesler and Goldberg (1971) examined the issue that women are biased against other women by asking female college students to judge a set of paintings that were identified as being done by male and female artists. Half the paintings were said to be prize-winners in an art show and half were identified as just entries. Subjects were asked to read a brief biographical sketch on the artists, to rate each painting on such things as technical competence and creativity of the artist, and to predict the artistic future of each artist. The results showed that male artists were rated significantly superior to female artists as to both technical competence and artistic future, but only for the artists whose paintings were designated as entries into a contest. When the paintings were designated as winners in an art show, the artists were rated about equal or slightly in favor of the female artists. The authors interpreted this finding to mean that women will value accomplishments of other women when it is acclaimed successful in competition, but will be biased against them and will devalue work that fails to be successful. They also suggested: "The implications of this finding are far-reaching. The work of women in competition is devalued by other women. Even work that is equivalent to the work of a man will be judged inferior until it receives special distinction and that

distinction is difficult to achieve when judgment is biased against the work in competition" (p. 117).

In a partial replication of the Pheterson et al. study, Etaugh and Sanders (1974) used both male and female subjects along with a different set of biographical sketches and slides of paintings. They found that male and female college students rated the paintings similarly except that males rated paintings done by female artists to have greater emotional impact than those done by males, and that females rated paintings done by male artists as more technically competent than the paintings done by female artists. Etaugh and Sanders suggested that the results did not support a phenomena of women being biased against women, but that differences in ratings were likely due to the fact that competence is usually considered a masculine attribute so men are naturally more technically competent. They also suggested that emotionality is a feminine trait, which explains the greater attribution of emotionality to the paintings done by females.

Behavioral Correlates

As was suggested earlier, it may be that women are biased against other women, but due to social pressures to conform with the ideals of the feminist movement and a greater need to self-express and upgrade their self-images, women are not buying women's performance as being inferior

to men's. The acceptance of a belief that women see other women as being equal or better than men in areas formerly dominated by men, as some of the studies on bias seem to suggest, overlooks an important influencing factor. Up to now, the evidence considered has suggested that both men and women hold certain stereotypical beliefs about women, that men are generally considered to be more competent (but that a woman can increase her competence if she takes on male attributes), and that, in general, women are prejudiced against other women, particularly when they are perceived to be attempting to do something that has been traditionally considered masculine. It has also been suggested that women tend to have a negative self-concept and relegate themselves to more passive and subservient roles. If women believe, as men do, that they are less competent, intelligent, independent, more easily confused, and more prone to fail, how might this influence their behavior? That is, what effect has the feminine role had on women and, in particular, with the way women interact with other women?

One possible consequence is that women continue to perpetuate the "myths" of the female stereotype by identifying with and supporting sex role behavior. If the assumption that men see themselves to be more competent, intelligent, assertive, success-oriented, interesting, and a better source of information than a women is correct, then perhaps women hold this to be true as well. Men, for example, are

considered better problem-solvers than women, and this may account for why men are frequently sought out for consultation by both men and women. Blau (1962) found that both male and female social workers preferred to consult with women social workers about work-oriented problems but that each sex preferred to socialize with the same sex persons. Greenberger and Sorensen (1970), however, suggested that Blau's results may have been due to the fact that social work was predominantly a feminine occupation. They reported that among junior high school faculty the sex of the individuals had an overwhelmingly large influence as upon whom individuals chose to consult, respect, and like. Unlike Blau's social workers, men and women faculty members chose men more frequently for consultation, and men chose other men more often for respect. The results become more intriguing when the finding is added that women faculty members were not viewed as being less competent in their teaching skills than the men. The differences in preferred sex of consultant suggests a difference in verbal and communicative ability between men and men, men and women, and women and women.

There is some debate as to whether women and men differ in their use of vocabulary. Women are said to use certain modifiers like "adorable," lovely," divine," and "sweet" more than men and that they have a greater propensity for hyperbole which leads them to tack -ly onto adjectives, resulting in phrases like "awfully pretty" and "terribly

nice." On the subject of this debate, basically two points of view have been presented. The first view argues that men have a more extensive vocabulary and a greater interest in words. The second view contends that women, not men, use more adjectives and are more descriptive in language. Kramer (1974) compared written descriptions of 17 men and 17 women of two black-and-white photographs. She found no difference in the use of -ly adverbs and prenominal adjectives between the sexes. She then had 11 female English majors identify selected paragraphs as being written either by a male or female. Only a little better than half (6 out of 10) of the paragraphs were correctly identified. In incorrectly ascribing female authors to paragraphs written by males, Kramer reported, some of the raters explained, "...the passages were graceful, sensitive, and contained a lot of detailed description" (p. 85).

Differences in the use of vocabulary may reflect more subtle differences than just saying the same thing differently. It may also reflect an individual's sensitivity to certain uses of language and influence their understanding of certain ideas or messages. Scheidel (1963) found that women were significantly more persuasible than men. Male and female college students listened to an 11-minute persuasive speech opposing future expansion of power of the federal government into areas of health and education. He then tested their attitudes toward the speech, and by structuring his measurement scale was able to separate general, nonrelevant specific,

and relevant specific items. Male subjects were influenced significantly more by relevant items and significantly less by the general items. While female subjects were also significantly influenced by the relevant specific items, they were also influenced by the general and nonrelevant specific items. Though the female subjects heard the important points as suggested by their being influenced significantly by relevant specific items, they were also attending or being distracted by nonrelevant points. Another explanation, suggested by Scheidel, is that either women are more easily persuaded because they don't listen intently enough to separate the relevant material, or that they are more likely to generalize from the persuasive parts of a communication and confuse the total message. In either case, the added finding that women retained significantly less of the speech content than men, except in the subcontent area of education, points to a possible problem in effective comprehension. It was only with the content dealing with an area of feminine "interest and competence" that women were able to consistently recall information accurately. Women may selectively tune out content of noninterest and may not only be influenced by the sex-appropriateness of the topic, but by the sex of the speaker as well.

Rossiter (1972) investigated the effect of the sex of the speaker on listener comprehension, and while he found no differences in overall listening scores for males and females,

he unfortunately failed to control for sex bias of the topics presented with sex of the speaker. He had subjects listen to 14 short (1½ minute) informative messages presented by either a male or female on a wide variety of topics ranging from yoga to Newton's Principia Mathematica to diseases of cats and dogs. He also had 14 different speakers which may have removed any effect that could have been attributed to the sex of the speaker. (It may have also been the case that since the speakers were all communication students, they presented in a similar style or voice, e.g., they may have artificially enhanced or deceived listener comprehension.)

Globig and Touhey in a study in 1971 examined the effects of sex of the speaker and affective determinants on lecture content retention. Forty-seven male and forty-six female introductory psychology students heard a 1700-word encyclopedia entry dealing with the history of the country of Zanzibar. Subjects heard either a male or female speaker portraying one of three moods: anger, depression, or elation. The affective factor was nonsignificant, but the experimenters found that males recalled significantly more than females and that while it failed to reach significance, male speakers were associated with higher recall than female speakers.

Statement of the Problem

This last set of findings suggests the possibility of differences in perception of the speaker and the speech being influenced by sex of the speaker, the listener, or both. The research presented demonstrated that men and women are not evaluated equally, even when they produce objectively identical results (i.e., same painting, article), and that this differential evaluation may have counterproductive or even detrimental effects on the perception of women. A result of this sex stereotyping and bias against women has no doubt tended to limit the development of certain skills and abilities that are most often used to "show the male to be superior." It's been a socially desired end to teach women to be passive and yielding, to accept positions as nurses and secretaries, and to shun competition and success. Paradoxically, blame is difficult to assign. Hawley's (1971, 1972) finding that women care about what men think about them suggests that women are at least co-partners in their own self-degradation. An implication of this is that if men hold women to be inferior, incompetent, and incapable in "traditionally men's work," then women probably do so, too. If women are to get ahead, not only must they convince men they can do the job, but other women as well. In order for women to succeed they will at least need the support of other women. But, it is a contention of this study that women do not very often get this support, and

that women tend to treat other women similarly to the way men do.

The purpose of this study is to examine the possibility that women do not listen to other women. Somewhat more formally, it is hypothesized that when men talk, they are listened to more attentively than women, even if they are saying the same thing. In addition, the sex appropriateness of the content was not expected to influence listening comprehension. It was predicted that although females speaking on a "feminine" topic may be listened to more closely than if the topic were a "masculine" one, male speakers would be listened to more closely regardless of the gender of the topic.

Footnote

[1]Sex role preference of the stimulus-persons was manipulated by varying their responses to a masculine-feminine preference test. The female stimulus person responded positively to items such as "If I marry, I would enjoy preparing meals for my family," and "In order to get assistance, I would act helpless." The male stimulus person responded positively to items such as "At times I feel like picking fights with someone," and "When I marry, I would not see it as my responsibility to stay home and look after a baby."

Appendix B

Preliminary Survey Questions

Preliminary Survey Questions[a]

For the skill activities listed below, indicate whether you feel it is a masculine or feminine activity, how much you know about each activity, and how interested you would be in learning more about each activity.

	Masculinity-Femininity	Knowledge	Interest
	Masculine Feminine	Very little A great deal	Very little A great deal
Chess	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Interior Decorating	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Snow Skiing	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

[a]Only the skill activities included in the present study are shown.

Appendix C

Scripts

Chess

Chess is played by two opponents on a chess board made up of 64 squares. These squares are alternately light and dark and are arranged in eight vertical and eight horizontal rows. The vertical rows of squares are called "files" while the horizontal rows of squares are called "ranks." There is a third pattern of squares, "diagonals," which is made up of same-color squares touching only at the corners.

Each player begins the game with 16 chessmen--a King, a Queen, two Rooks (or Castles), two Knights, two Bishops, and eight Pawns. The term "chess piece," or simply "piece," refers to all chessmen other than Pawns. Thus Rooks and Knights are called pieces, but a Pawn is just a Pawn. To distinguish the chessmen on each side, one set is light-colored (the "White" forces) and the opposition is dark-colored (the "Black" forces).

Before setting up the chessmen, the board should be placed so that the right-hand corner nearest each player is a white square. On the rank nearest to each player the Rooks, which look like medieval towers, are placed in each of the corners. Next to them, represented by horses' heads, are the Knights. Next to the Knights, still moving toward

the Center, are the Bishops, which look like bishops' miters. On the two remaining squares, the Queen and King are placed according to the rule of Queen on Color. Thus the White Queen goes on a white square and the Black Queen on a black square. The White and Black Kings go on the remaining squares, black and white respectively. The Pawns are placed on the second rank in front of the appropriate color's pieces.

When starting play, white always makes the first move, the players alternating with each move. Only one move can be made at a time, with one exception--Castling (which involves movement of two pieces). A move is completed when one chessman has been transferred from one square to another.

Only one chessman can occupy a given square at a time, except when a capture is being made. Capture is executed by displacement. When two chessmen of opposite color do occupy the same square, the chessman "moving" into the "occupied" square "captures" the opponent and that opponent chessman is removed from the board. There is one special case of capture involving the Pawns called "en passant" that is an exception to this rule. Only one capture can be made at a time.

Each chessman is moved and takes captives according to the powers laid down for it in the rules of chess. On every turn, each player must move one chessman, even if the only possible move is obviously disadvantageous. The player may choose any available move with the following exceptions: If

a player's King is threatened with capture, then that player must make a move that ends the attack. A player cannot make a move that would place that player's King in danger of being captured. If the King cannot get out of check, either by moving the King into a "safe" square, or by moving another chessman of the same color in direct line of the opponent's attack, or by capturing the opponent's chessman attacking the King, then it is checkmate, and the game is over. Checkmate occurs when the King is in check, and there is no way for the King to escape. A stalemate results when it is a player's turn to move, and the King is not in check but the only moves available would place his King in check.

Interior Decorating

Before we can begin to decorate a room, we must consider its size, purpose, types of furnishings, and so on. The scale or balance of a room depends very much on what goes in it. Ideally, the scale should permit (if not encourage) the maximum potential use of a room. While a room consistent in scale is nice, symmetrical balance tends to be restful and dull. Asymmetrical rooms (having furnishings smaller or larger than scale) are more nervous but also more interesting. An otherwise stable setting, for example, can be livened up with one or two conspicuously underscaled or overscaled pieces of furniture. This has maximal effectiveness if the pieces are interesting in and of themselves and not just big or small. When rooms have too many underscaled pieces of furniture, it makes people look too large. Just the opposite happens with too many overscaled pieces of furniture--it causes people to look small.

If you have pieces of furniture that are out of scale, there are some things you can do about it. Overscaled objects can be made to appear smaller by upholstering, or by painting them in the predominating color of the room, or in a prim stripe. Underscaled objects can be made to appear larger by using gushy prints or extroverted contrasting paints. A final point on this topic to keep in mind is that over- and underscaling depends on the context, and often a little change can go a long way.

A problem related to the scale of a room is that most modern rooms lack height or, in other words, have low ceilings. In addition, ceilings are made to appear even lower due to inappropriate use of horizontal structures like sofas, or tables and chairs. One easy way to "push the ceiling up" is to hang vertical pictures. Their vertical effects act to make the walls seem higher. If vertical pictures are not available, then two horizontal pictures hung one above the other can also produce a vertical impression. If one picture is narrower than the other, laying it below the wider one in a inverted pyramid will create el Greco-like stability. One thing to avoid is covering a wall with too many pictures, making it difficult to see any one of them. Also, hanging pictures on extravagant wallpaper should be avoided.

Small rooms can be made to appear larger with wallpapered walls and more unified when the ceiling is also wallpapered. Bold directional patterns should be avoided when papering ceilings to prevent confusion of the pattern with the right angles formed by the ceiling's meeting the walls. Muted directional patterns can be used, but only if the direction of the pattern flows across the celing towards the most conspicuous wall (which is usually the one your first see when entering a room).

Doors are also an important factor to the scale of a room. They should be made either quite inconspicuous, or very conspicuous, but not in-between. Often making a door

inconspicuous is the best course to take. In these cases, a door can be ignored if wallpapered, or painted exactly as the walls, or adorned with a minimal amount of hardwood. However, if the door is one you cannot miss, or has real beauty, then you should t treat it like a prima donna. One way to do this is to use overdoors--which are either of carved wood, painted panels, or other decorations. Another way is to use moldings or panels which can be applied to the doors themselves with a great effect if contrasted sharply against the body of the door. Finally, for rooms that from time to time need to be closed off--such as a dining room--decorative doors that fold back to open and reveal are both cordial and efficient.

Skiing

Skiing sports can be divided into three basic groups: Alpine, Nordic, and Biathlon. Alpine skiing includes downhill, slalom, giant slalom, and the Alpine combined event. Nordic skiing includes cross-country, ski-jumping, and the Nordic combined. Biathlon combines cross-country skiing with rifle shooting. All of these events are included in the Winter Olympics.

In order to know how to ski, it is necessary to know what equipment is needed for the kind of skiing you want to do. Skis are made from a variety of materials such as wood and metal, though fiberglass and plastic are currently the most popular. Metal edges along the running surface are added to provide extra grip.

The length and weight of your skis vary with your size and preference. The kind of competition also determines the type of ski. Downhill skis are heavier, stiffer, and longer than skis for other racing events. Slalom skis are shorter and narrower, and the metal edges are welded to the skis to prevent their being torn off. Giant slalom skis have more flexibility and camber than downhill skis; their width is intermediate between downhill and slalom skis. Ski-jumping skis are heavier, wider, and longer than the others, while cross-country skis are narrow and light and have a simple binding to allow the heels to move up and down.

Waxing skis helps to increase speed. The temperature, snow conditions, and type of skiing will determine the kind and amount of wax to use. Waxing is particularly important in racing and cross-country skiing.

With the skis, poles are used for balance, to help in climbing, and to provide impetus when starting off and making turns. The poles are made of either steel or aluminum tubing with an adjustable strap which allows you to secure the poles to your wrists.

The basket, which is about eight centimeters from the end of the pole, prevents the pole from sinking too deeply into the snow. Just as the size of the skis varies, so does the length of the poles. Usually the top of the pole reaches between the waist and armpit when the arm is hanging normally and the tip of the pole is on the snow.

Besides the skis and poles, the correct choice of ski boot is essential. Ski boots must fit to give maximum control over the ski edges and support for the ankles. Racing boots are stiffer than regular ski boots and fit higher on the ankle, while cross-country boots are lighter and lower-fitting for extra comfort. The boots are held firmly to the skis by bindings which also release the skier from the skis in case of a fall.

Finally, how you are dressed can be very important. Your clothes should be warm, waterproof, and tight-fitting to reduce wind resistance. Goggles are sometimes used for

protection from glare, wind, and snow spray. Though when racing you must wear a helmet, in normal skiing they are optional.

Appendix D

Recruitment of Subjects

Recruitment of Subjects

Subjects were asked to volunteer to participate in the Experimenter's master's thesis experiment. Subjects were told that the study was investigating some aspects of public speaking behavior and involved viewing a presentation on a popular topic which lasted no longer than 4-5 minutes. They were also told that they would be asked a few questions at the end of the presentation.

Subjects were recruited from classrooms, friends, and through friends of some of the participants by the experimenter. Participants were asked to sign a volunteer list indicating the time and day that they would participate. In addition, in order to achieve groups distributed equally by sex, the experimenter asked subjects to distribute themselves equally by sex for any particular time slot. For a given presentation the group was limited to a maximum of eight persons; this allowed for ease in administration of materials as well as reduced the likelihood of eliminating subjects due to over-recruitment for any particulat presentation.

Individuals volunteering to take part in the study were told the following:

> I am a graduate student in psychology working on my master's thesis. For my thesis, I am investigating some aspects of public speaking behavior.

The reason I am here today is to ask for volunteers to participate in my study. The study involves watching a brief videotaped presentation which lasts about 3-4 minutes on a popular topic and then answering a few questions about the presentation.

The experiment will be held in Room 215 in the old section of the library. If you decide to volunteer, please sign the list for the day and time you wish to participate, and take a reminder slip which gives directions on how to get to the experimental room.

If for some reason you cannot make it that day, the sign-up list will be in Room 215 so that you can register for another day and time.

I am trying to make the situation as similar to a real situation as possible, and I would like to ask you if it is possible to please distribute yourselves equally by sex across sign-up times. In addition, if you would volunteer for a time different from that of your friends, that would also be appreciated.

I really need your help. I am aiming toward a March deadline, and I need 120 subjects. I hope you will volunteer and would like to thank you for considering my request.

Appendix E

Experimental Measures

Experimental Measures

These measures were presented to subjects before the presentation:

Sex _____ Age _____

Major _____ Class _____

How much do you know about the topic to be presented?

1 2 3 4 5 6 7

Very little — A great deal

How interested are you in the topic to be presented?

1 2 3 4 5 6 7

Very little — A great deal

After the presentation the following questions were asked:

How effective was the speaker?

1 2 3 4 5 6 7

Not very effective — Very effective

How informative was the speech?

1 2 3 4 5 6 7

Not very informative — Very informative

Recall everything you can from the talk you have just heard.

Complete this checklist marking only those items that are completely true. (Subjects completed only the checklist corresponding to the talk they were presented.)

Chess

Please check those items that are completely true.

_____Rooks are placed at the corners of the chessboard.

_____Only one chessman can be moved on any one move.

_____A stalemate is a kind of checkmate.

_____The chessboard is made up of seventy-two squares.

_____The Queen and King are placed according to the King on Color rule.

_____There are eight vertical and eight horizontal rows of squares.

_____A player cannot make a move that would place the King in check.

_____Only one capture can be made at a time.

_____There are sixteen chessmen on each side.

_____Pawns are also called chess pieces.

Interior Decorating

Please check those items that are completely true.

_____Rooms having too many underscaled pieces of furniture make people look too large.

_____Pieces of furniture out of scale should not be used.

_____Hanging pictures on extravagant wallpaper will accent pictures.

_____Directional patterns on the ceiling should not be at right angles with the walls.

_____Overdoors are separate doors made of carved wood, painted panels or other decorations.

_____Usually making a door inconspicuous is the best choice to make.

_____Symmetrical balance tends to be restful and dull.

_____Ceilings can be "pushed up" by hanging vertical pictures.

_____Prim stripes can be used to make furniture look larger.

_____Placing a narrow picture under a wider one will produce a vertical impression.

Skiing

Please check those items that are completely true.

_____The length and weight of your skis vary with your size and preference.

_____Giant slalom skis are wider than downhill and slalom skis.

_____Cross-country skis are wide and heavy.

_____Ski clothes should be somewhat loose fitting.

_____Ski poles are made of either aluminum or steel.

_____Wood, metal, fiberglass, and plastic are all materials of which skis are made.

_____Nordic skiing includes downhill slalom, giant slalom, and Alpine combined event.

_____Racing boots are stiffer and fit higher on the ankle than regular ski boots.

_____The Biathlon includes cross-country skiing.

_____Metal edges are added to skis to provide extra grip.

Indicate whether you feel the topic you just heard is a masculine or feminine activity.

1 2 3 4 5 6 7

Masculine Feminine

Subjects were shown four photographs (one of each speaker) and were asked to rate the attractiveness of each individual:

How attractive would you rate the following individuals?[1]

	Not very attractive						Very attractive
A	1	2	3	4	5	6	7
B	1	2	3	4	5	6	7
C	1	2	3	4	5	6	7
D	1	2	3	4	5	6	7

[1]A - was a male speaker
B - was a female speaker
C - was a female speaker
D - was a male speaker

Appendix F

Experimental Instructions

Experimental Instructions

Public speaking occurs in a wide variety of speaking situations. In study groups, social gatherings, political rallies, luncheon clubs, business meetings and conferences, consultation with boss, and so on, there is the important need to speak effectively. Since the primary purpose in all situations is to convey a message, one logical way to bring this about is to improve speaking behavior.

Public speaking is generally considered to involve the interaction of four basic elements: the speaker, the speaking environment, the audience, and the content of the speech. Often public speaking techniques focus on the speaker, preparation of the speech, and the presentation style of the speaker. Audience reaction is typically evaluated by their response to the speaker (and the speech) during and after the presentation. Also, the evaluation generally focuses on how well the speaker presented the speech with little consideration given to how the audience might have better received the speech. Assessment of the effectiveness of speech is often attributed to the speaker and overlooks the interaction between the audience and the speaker.

As a means to get at this overlooked aspect of public speaking and to improve our current techniques of public speaking, the purpose of this study is to examine the speaker-audience relationship in order to get a general idea of how

an audience reacts to a speaker and to suggest ways to more effectively involve the speaker with the audience.

Since it is often the case that a speaker only effectively reaches a very small part of the audience, the presentations will be shown to groups of limited size. In order to get some audience appraisal of speech-making, we are going to present to you a five-minute speech on a topic of general interest. The presentation is videotaped, but was recorded before a small live audience. The purpose of this is so the presentation will be as realistic as possible and allow for other groups of individuals to also evaluate the presentation.

We would like you to pay close attention to the speech, and at the conclusion we will ask your opinion of the speech and for any comments or suggestions of ways the presentation could be improved.

Appendix G

Tables and Figures

Table 1

Mean Ratings[a] of Prior Knowledge, Interest, and Masculinity-Femininity of the Topics

	Knowledge[b]		Interest[c]		Masculinity-Femininity[d]	
SUBJECTS	males	females	males	females	males	females
TOPICS						
Interior Decorating	2.30	2.05	3.15	4.40	4.70	4.45
Snow Skiing	2.35	1.65	4.45	3.95	3.65	4.00
Chess	3.60	2.15	3.90	3.20	3.30	3.25

[a]Ratings were based on 1-7 scales.

[b]The higher the score the greater amount of prior knowledge reported.

[c]The higher the score the greater amount of prior interest reported.

[d]A score less than 4 is associated with being of a masculine-type activity; a score greater than 4 is associated with being of a feminine-type activity.

Figure 1

Comparison of the Preliminary Survey and Experimental Populations' Ratings of Prior Knowledge

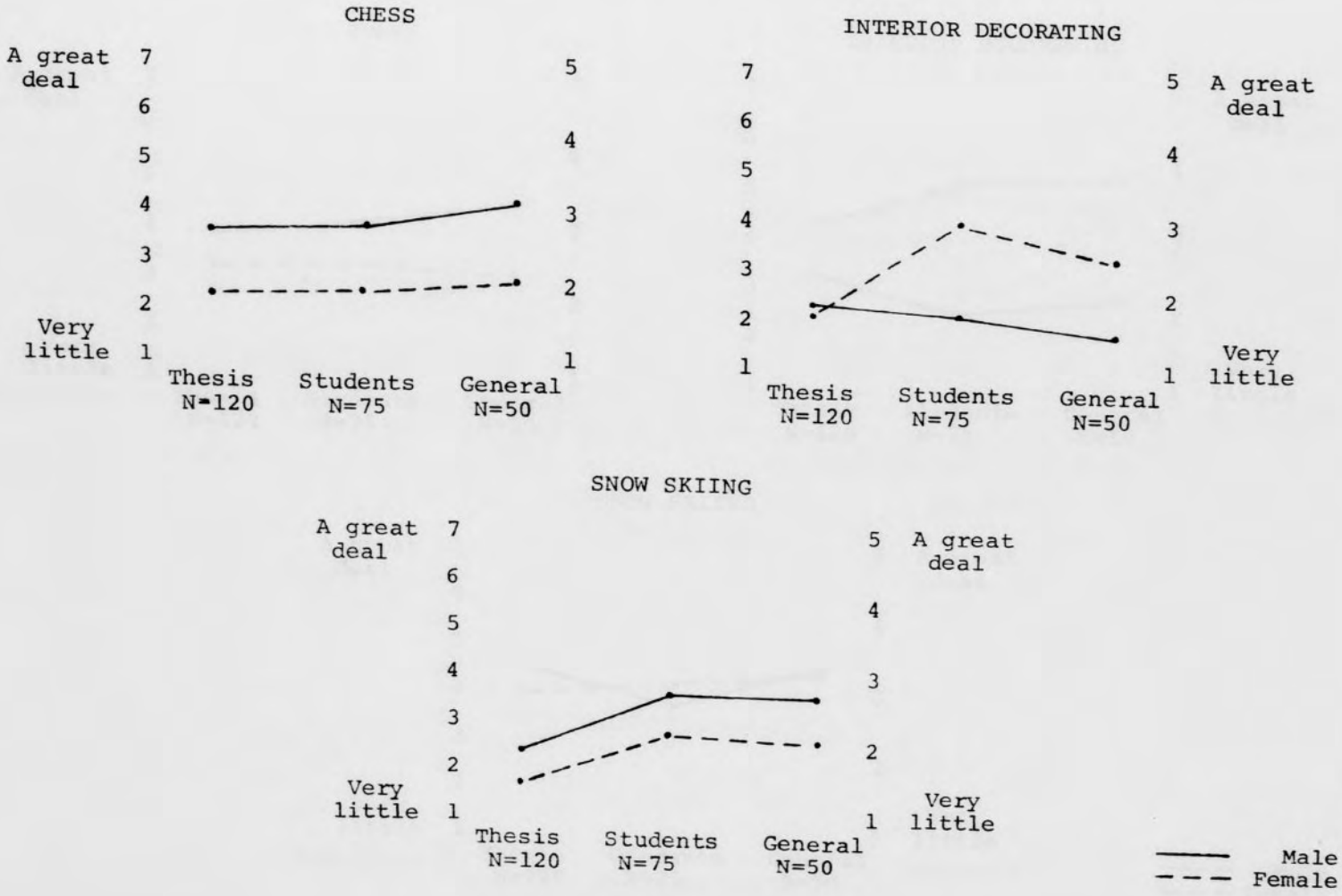

Figure 2

Comparison of the Preliminary Survey and Experimental Populations' Ratings of Prior Interest

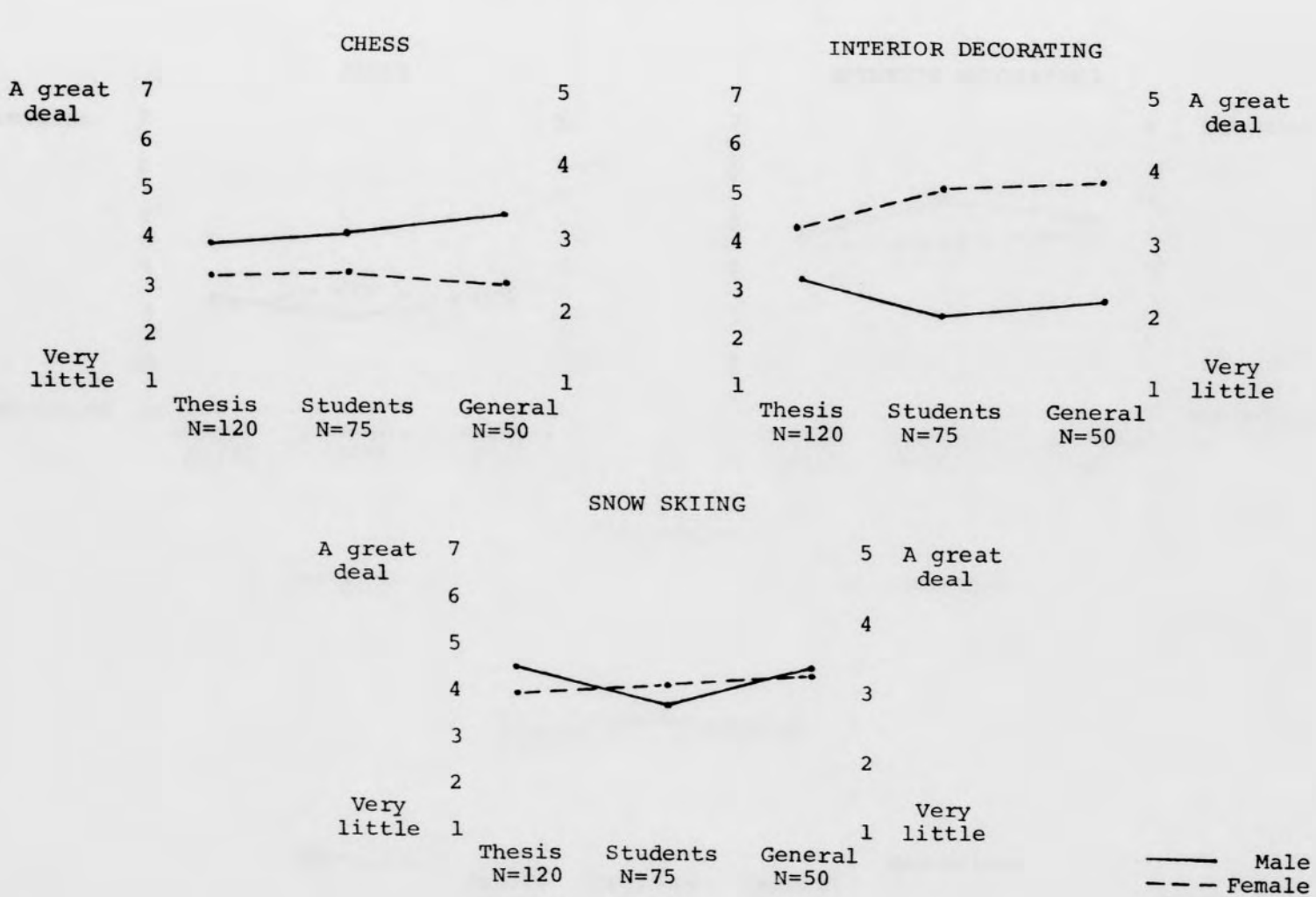

Figure 3

Comparison of the Preliminary Survey and Experimental Populations' Ratings of Masculinity-Femininity

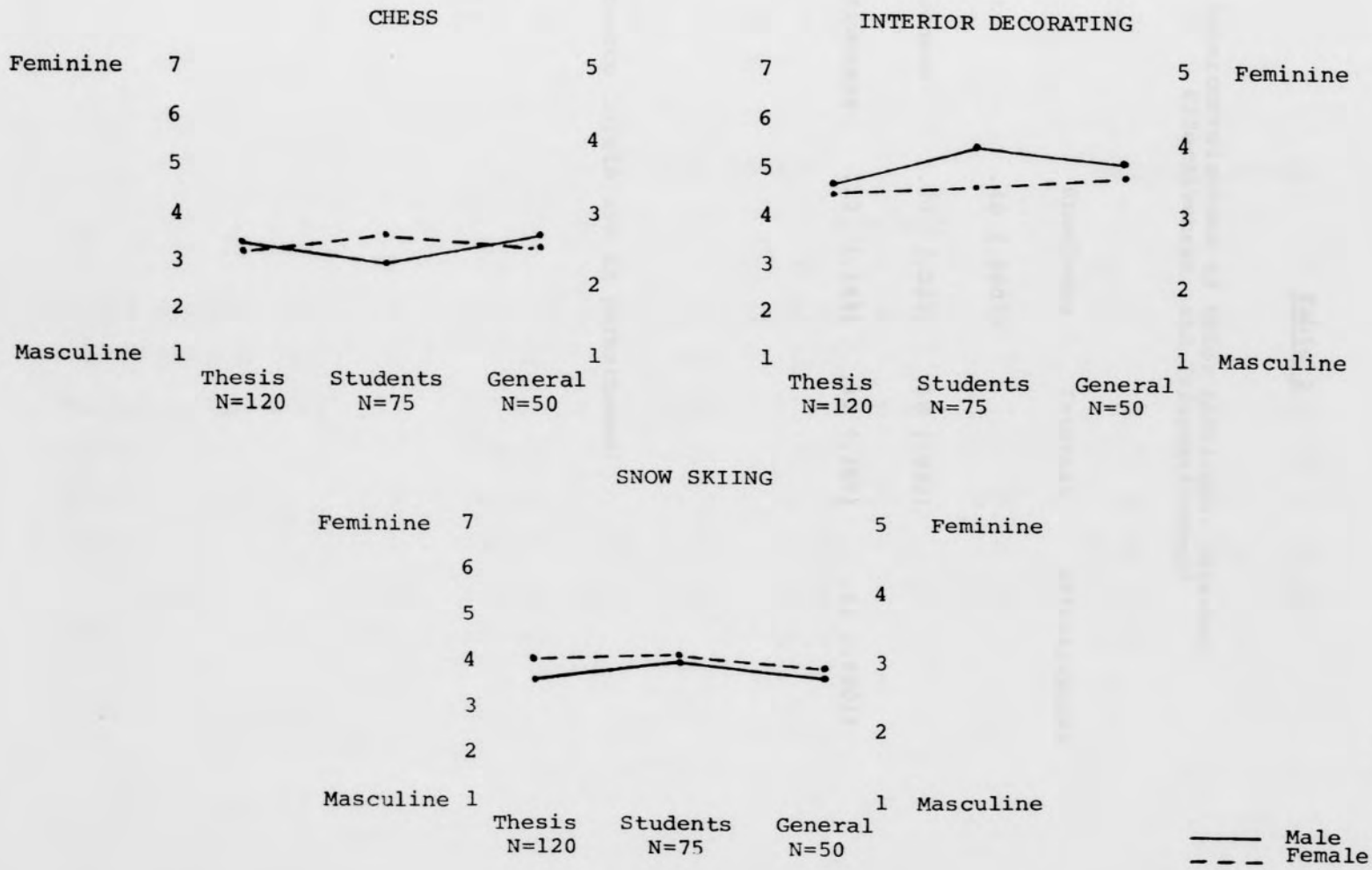

Table 2

Intercorrelations of Prior Knowledge, Interest, Effectiveness, and Informativeness[a]

	Knowledge	Interest	Effectiveness
Interest	.40 (.0001)		
Effectiveness	.20 (.027)	.18 (.039)	
Informativeness	.13 (.145)	.10 (.289)	.44 (.0001)

[a]Significance levels are in parentheses.

Table 3

Summary of Analysis of Variance of
Free Recall and Checklist Recall

		FREE RECALL						CHECKLIST RECALL		
		Relative			Absolute					
	Df	MS	F	P	MS	F	P	MS	F	P
Sex of Speaker (A)	1	240.83	1.73	.191	70.53	3.27	.073	9.08	4.45	.037
Sex of Subject (B)	1	1.20	<1	.926	6.53	<1	.583	21.68	10.62	.001
Gender of Topic (C)	2	761.65	5.46	.005	43.86	2.03	.134	1.88	<1	.595
A x B	1	128.13	<1	.339	7.50	<1	.556	.68	<1	.566
A x C	2	31.03	<1	.803	10.26	<1	.629	.98	<1	.627
B x C	2	196.30	1.41	.247	13.16	<1	.550	2.92	1.43	.241
A x B x C	2	246.63	1.77	.173	37.55	1.74	.178	.33	<1	.853
Error	108	139.41			21.59			2.04		

Table 4

Mean Scores for Recall of Information

	N	Free Recall[a]		Checklist Recall[b]
		Relative[c]	Absolute	
Sex of Speaker				
Male	60	31.60	11.65	2.25
Female	60	28.77	10.12	2.80
Sex of Subject				
Male	60	30.28	11.17	2.10
Female	60	30.08	10.65	2.90
Male Speaker				
Male Subject	30	30.67	11.63	1.90
Female Subject	30	32.53	11.67	2.60
Female Speaker				
Male Subject	30	29.90	10.60	2.30
Female Subject	30	27.63	9.63	3.30
Gender of Topic				
Masculine	40	33.7	12.05	2.40
Feminine	40	31.6	10.58	2.40
Neutral	40	25.3	10.03	2.78

[a]The higher the number the greater amount of information recalled.
[b]The lower the number the greater amount of information correctly recalled (see section on scoring for Free Recall and Checklist Recall).
[c]Relative scores are given in percentage scores.

Table 5

Intercorrelations of Effectiveness, Informativeness, Free Recall and Checklist Recall[a]

	Effectiveness	Informativeness	Checklist Recall
Informativeness	.44 (.0001)		
Checklist Recall	-.23 (.012)	-.28 (.002)	
Free Recall (Relative)	.18 (.044)	.25 (.006)	-.21 (.022)
(Absolute)	.14 (.10)	.10 (.27)	-.37 (.0001)

[a]Significance levels are shown in parentheses.

Table 6

Adjusted Means of Free Recall and Checklist Recall for Ratings of Effectiveness and Informativeness [a]

	N	Free Recall		Checklist Recall
		Relative	Absolute	
Sex of Speaker				
Male	60	31.75	11.72	2.23
Female	60	28.61	10.05	2.82
Sex of Subject				
Male	60	30.09	11.01	2.13
Female	60	30.28	10.76	2.92
Gender of Topic				
Masculine	40	33.15	11.88	2.48
Feminine	40	31.67	10.67	2.39
Neutral	40	25.74	10.10	2.70

[a]Relative scores are based on percentage scores.

Table 7

Intercorrelations of Prior Knowledge, Interest, Free Recall and Checklist Recall [a]

	Knowledge	Interest	Checklist Recall
Interest	.40 (.0001)		
Checklist Recall	-.38 (.0001)	-.24 (.009)	
Free Recall (Relative)	.19 (.04)	.11 (.22)	-.37 (.0001)
(Absolute)	.15 (.11)	.07 (.45)	-.21 (.022)

[a] Significance levels are shown in parentheses.

Table 8

Adjusted Means of Free Recall and Checklist Recall for Ratings of Prior Knowledge and Interest[a]

	N	Free Recall		Checklist Recall
		Relative	Absolute	
Sex of Speaker				
Male	60	31.63	11.66	2.27
Female	60	28.74	10.11	2.78
Sex of Subject				
Male	60	30.09	11.08	2.20
Female	60	30.28	10.69	2.85
Gender of Topic				
Masculine	40	33.66	12.05	2.48
Feminine	40	31.69	10.60	2.35
Neutral	40	25.19	10.00	2.74

[a]Relative scores are based on percentage scores.

Table 9

Mean Ratings of Masculinity-Femininity
By Sex of Speaker[a]

	Chess	Interior Decorating	Snow Skiing
Male	2.75	4.30	3.75
Female	3.80	4.85	3.90

[a]Ratings were made on a 7-point Likert type scale--1 associated with being completely masculine, 7 associated with being completely feminine.

Table 10

Summary of Analysis of Variance for Masculinity-Femininity Ratings of the Topics

Sex of Speaker (A)	1	12.68	17.85	.0001
Sex of Subject (B)	1	.21	<1	.589
Gender of Topic (C)	2	14.44	20.32	.0001
A x B	1	.41	<1	.449
A x C	2	2.10	2.96	.054
B x C	2	.54	<1	.521
A x B x C	2	.24	<1	.725
Error	108			